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JULY 1945

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1945

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THE COVER—A Bell two-place closed cabin helicopter and a single-place open cockpit job (top to bottom) in twin flight over a field. The Bell Aircraft Corporation is celebrating its tenth birthday this month.

JOHN F. BUDD, Editor and Publisher

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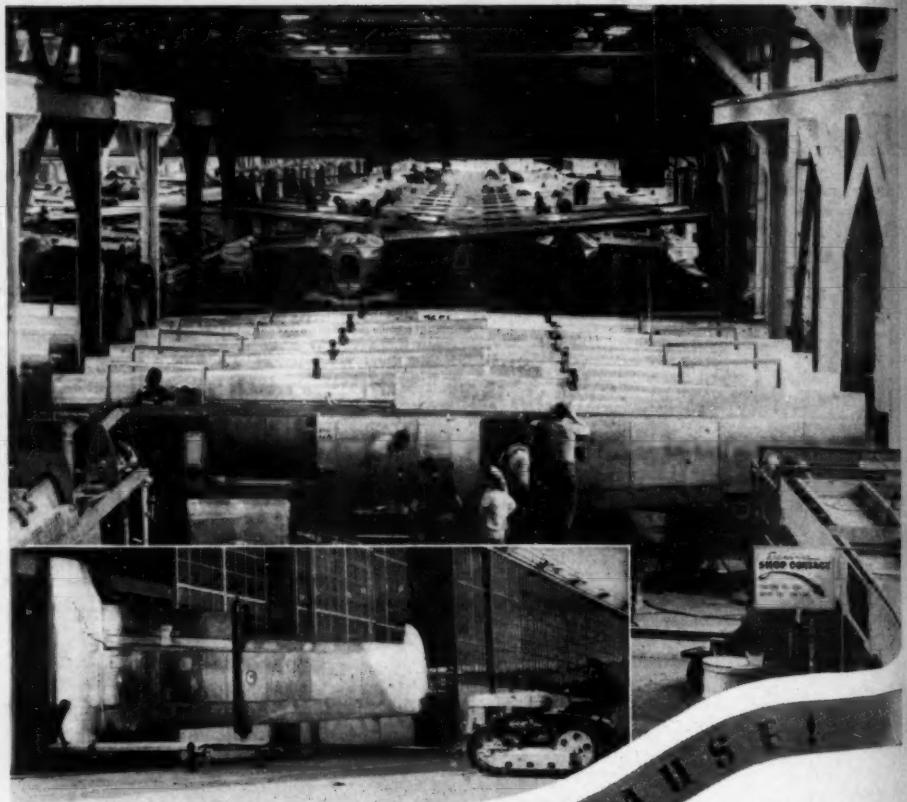
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WITHOUT A PAUSE

SHORTLY before V-E Day, the 1000th set of A-26 Invader attack bomber wings and nacelles built by Beechcraft rolled onto the loading ramp with neither pomp nor ceremony. Beechcrafters were too busy planning for the other thousands to follow to pay any attention to this milestone.

Beechcrafters know that the war is not over until Japan has surrendered unconditionally. And Beechcrafters want to help finish the job in the shortest possible time.

They have met every assignment and every production schedule ever given to them. Even as the 1000th set of A-26 wings and nacelles came off the assembly line without causing a moment's pause in their work, so they carry on at quickened tempo until V-J Day. Beechcrafters will continue to meet all their commitments and obligations to our Armed Forces and in addition will have peacetime Beechcrafts ready for delivery at the proper time.

(Above) A half of one of the two Beech assembly lines producing wings and nacelles for the A-26 Invader attack bomber, one of America's major weapons in the war against Japan.

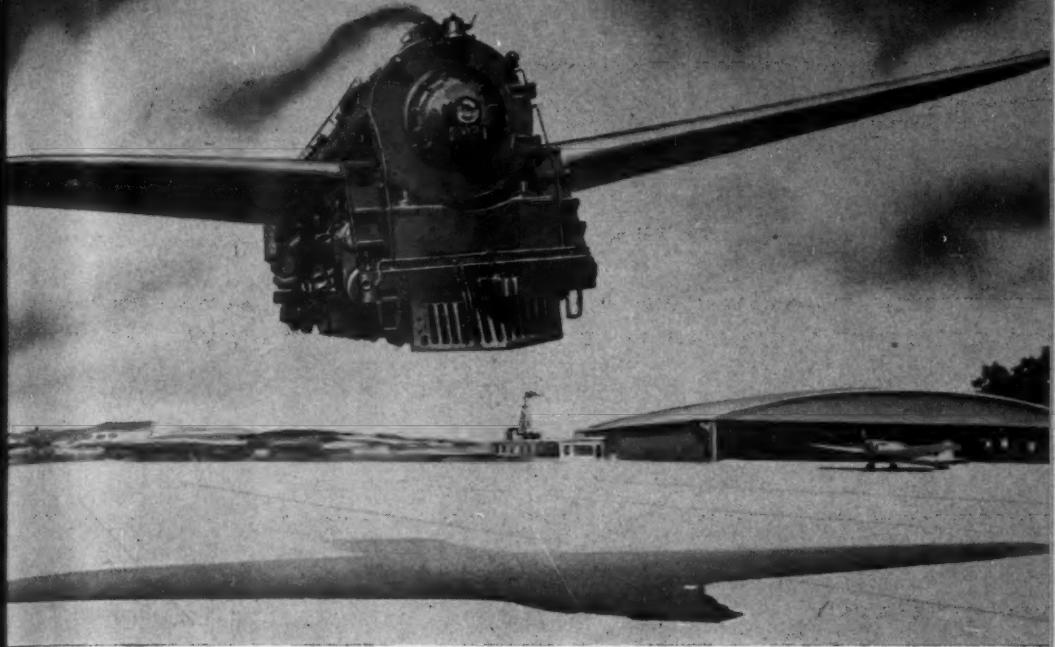
Beech Aircraft



C O R P O R A T I O N

BEECHCRAFTS ARE DOING THEIR PART

WICHITA, KANSAS, U. S. A.



Who Says Locomotives Can't Fly?

By DICK ROSS

We had been casting about for a suitable title and illustration for this article when an advertisement by the Portland Cement Association, Chicago, Illinois, gave us the answer to both. *Locomotives Can't Fly*, But—, the advertisement headlined. Hence, our own title: *Who Says Locomotives Can't Fly?* What was more, the Portland Cement Association's winged locomotive was right down our alley. So, through the speedy and good-natured cooperation of Mr. W. D. M. Allan, the picture was made available.—The Editor.

If anyone had the least idea that this business of air cargo still wore rompers, it must have been tossed right out of the window the moment the news arrived of the air transportation of 18 locomotives—from Sunny Miami to Blistering Burma.

Amazing? Miraculous? Breathtaking? Well, air cargo men don't think so. This may have been the first time locomotives ever were lifted into the air for flight, but tough-minded air cargo experts shrug this off as another good job done—and, of course, an "I told you so!" for the benefit of those Doubting Thomases who pop up here and there.

Anyhow, locomotive have got wings, and a new pace has been set.

On January 8, 1945, an urgent wire from the United States Commanding General of the China, Burma-India Theatre was received

in Washington, D. C., by General Brehon Somervell, Commanding General of the Army Service Forces.

Eyebrows arched in surprise and lips puckered to whistle as the contents of the wire were made known. *Locomotives by air?* That's an order if ever there was one! *And a dozen-and-a-half of them to boot!*

The order called for five-ton, gas, meter gauge locomotives. It was made clear that the locomotives, already approved through Lend-Lease, would have to be shipped with the greatest speed because Lord Mountbatten's



ALL AIR CARGO—
Part of a single shipment of three five-ton locomotives ready to be loaded aboard an ATC transport at Miami Air Field. The complete order called for 18 locomotives to be flown to Burma.

advances in Burma necessitated the "expansion of transportation equipment."

No time was lost. That very day the International Division of the ASF alerted the Fate-Root-Heath Company of Plymouth, Ohio. The contracts hadn't even been drawn up. However, confirmation by mail followed the long-distance telephone conversation.

ASF officers visited the plant management at Plymouth the following month. A packaging list was worked out, complete in every detail. This was cabled to the CBI Theatre to arrange air priority.

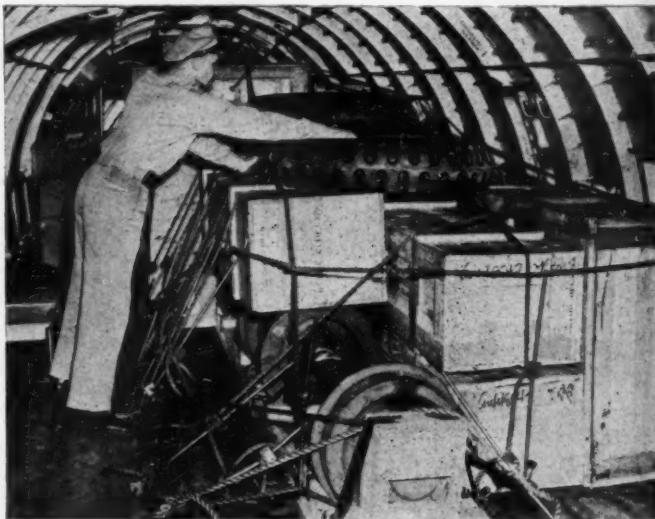
Meanwhile, the Fate-Root-Heath plant was busy, aware that a swift as well as thorough job was of the utmost necessity. The Air Transport Command stepped into the picture

when it notified the ASF officers, including the Transportation Corps' rail experts, that the last of the 18 locomotives would have to be in Miami and ready for flight by April 17.

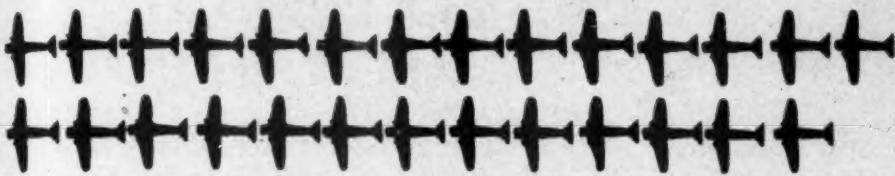
Eighteen fans for the locomotives were rushed by car from Indianapolis to Plymouth. A trucking company hauled mufflers from Chicago to the plant. Various parts for the locomotives converged on Plymouth from divers cities. In all, ASF officers obtained 35 AAA priorities or directives to grease the ways for the hurry job.

It was on March 27 that assemblage of the first three locomotives began. These were put together, tested, and then knocked down for shipment to Miami. Within two days, the three locomotives, fully crated and weighing a

DESTINATION BURMA
—Knocked down locomotives are safely stowed away in the cargo fuselage of an ATC plane. This unprecedented feat of air transportation won the plaudits of the British.



FROM MIAMI THESE . . .



. . . TRANSPORTED THESE . . .



HALFWAY AROUND THE

TO **BURMA**



total of 36,000 pounds including the accessories, were rushed to Florida by the Transportation Corps' Traffic Control Division.

Arriving at the airport, the heavy crates containing the badly needed equipment were swiftly loaded into two transport planes. Thus began a new "first" in air transportation which brought the locomotives halfway around the globe to their destination in Burma. To transport the complete order of 18 "iron horses" 27 planes were used.

The service department of the Fate-Root-Heath Company is often requested to make its shipments by air—and there is a definite reason for such specifications. Fate-Root-Heath manufactures locomotives and clay-working machinery, and these are in operation throughout the United States, Mexico, and many other foreign countries. Measured in dollars and cents, the breakdown of this type of equipment is no small problem. But this is where air express steps in.

Not long ago, one of its locomotives broke down in an Eastern plant. An order for the repair part—a heavy drive chain weighing 280 pounds—crackled over the telegraph wire to Plymouth. It specified air express; but when the service department, upon checking, learned that the shipment would cost \$80, some doubt was expressed over the correctness of the telegram. The Eastern plant was contacted with the query: *Are you sure you want air express?*

A letter to the Fate-Root-Heath Company brought, in effect, the following explanation:

Yes, we want you to ship that drive chain air express. Air express charges are extremely economical, especially when you consider that the locomotive breakdown is costing us \$200 a day.

This is not an isolated case. Other plants in need of rapid service are insisting upon air express.

One officer of the Fate-Root-Heath Company told AIR TRANSPORTATION that "the time may come when we can offer owners of our equipment air shipments on all parts and accessories." He visualized his company's service men adapting "air travel on emergency calls where locomotives and clay-working machinery may require factory-trained men."

"These are some of the advantages that can be offered by a privately owned company plane," he said, "and who knows but what manufacturers may become more alert to the facilities offered by a safe and economical airplane."

All of the shipments of the Fate-Root-Heath Company are handled either by Railway Express or by overnight truck to Chicago. The company enjoys excellent facilities out of Cleveland for rail express where shipments are then routed by air.

The Eastern half of the United States is routed through Cleveland; the Western by overnight truck to Chicago, then plane to destination.

Air shipments after the war?
You bet!

Speaking About



Air Cargo...

"If a passenger's trip is interrupted enroute he may turn sour, but he won't spoil; a plane load of fruits and vegetables, if unduly delayed, may turn into a plane load of garbage." Here are some interesting comments on air cargo by a man who should know.

*By WILLIAM A. PATTERSON
President, United Air Lines*

ASIMPLE definition of air cargo is that it is all traffic other than passenger. It includes passengers' baggage, mail, and what is commonly referred to as express and freight. Passengers' baggage can be considered along with the pattern for passenger routes and services. It normally runs about 20 percent of the passenger traffic volume by weight. At present the free baggage allowance is 40 pounds per passenger. With the coming of larger aircraft it is reasonable to expect an increase in the free baggage allowance, and as general cargo rates are lowered the shipping of heavy baggage and trunks as excess baggage by air should become more common. The shipping of baggage should not require a route and service pattern different from that provided for the passenger.

As to mail 12 percent of all ton-miles of non-local first class and air mail moved by air in the prewar years. History shows that it has been the policy of the Post Office Department to expedite mail movement by the fastest available means. If the policy is continued it follows that ultimately all first class mail will go by air where there results a saving in overall time as compared to the use of surface conveyance. If this should mean, for example, that all inter-city first class mail moving between points over 400 miles apart were to go by air, that would be equivalent to 75 percent of all non-local first class mail. Thus the ton-mile volume of first class mail that can ultimately be expected to be transported by air appears to be $6\frac{1}{2}$ times the volume of what was commonly known as air mail in the normal prewar years. Inasmuch as passenger traffic volume can be expected to increase a like or greater amount, a policy of "all first class mail by air" should not materially disturb the relationship that has existed in the past between mail and passenger volumes. This means that, as in the past, letter mail can continue to be adequately served by the route and service pattern required for passenger traffic. Certain high density routes and peak periods have in the past required aircraft schedules devoted exclusively to mail, and this

can be expected to continue in the future in about like proportion.

Air parcel post is non-existent at the present time, except as small packages are sometimes sent at the regular air mail rate. The air potentialities in this field are the subject of current investigation, but no conclusive findings have as yet been made. There is a bill now pending in Congress which would create such a service. That the potential is large can be seen from the fact that in 1940 the volume of surface parcel post was ten times that of surface first class mail. If air parcel post rates to the public can be set at levels that will attract to the air one-half of the surface parcel post volume moving over 400 miles, then the air lines will have a total mail volume nearly five times that already suggested if only all first class mail were to be airborne. Such an air parcel post volume would require a schedule and service pattern of its own, flown by about 125 aircraft.

We already have air express today, and we are hearing a lot about air freight. I am at a loss to tell you the difference between the two. Any differentiation would appear to be artificial and a matter of terminology. In the early days of railroading express came into being as an expedited service over passenger trains at a time when freight train service was

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MORE
space available
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WHEN TIME MEANS MONEY, Air Express *earns* its weight in gold. Specify this fastest delivery for all urgent shipments—there's more space available these days for all important traffic.

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500	\$1.11	\$1.52	\$2.19	\$4.38
1000	\$1.26	\$2.19	\$3.74	\$8.75
2500	\$1.68	\$4.20	\$8.40	\$21.00

AIR EXPRESS



GETS THERE FIRST

Phone AIR EXPRESS DIVISION, RAILWAY EXPRESS AGENCY
Representing the AIRLINES of the United States



EYE ON THE FUTURE — William A. Patterson, the author (left), shown inspecting the 60-ton Boeing C-97 at Seattle with E. E. Miller, assistant sales manager of the Boeing Aircraft Company. Two fully-loaded ton-and-a-half trucks can be driven into the plane left for other cargo.

relatively slow and unreliable. Freight service has been improving right along until today we have freight trains that are as fast, and in some cases faster, than passenger trains. Some railroads provide their own pick-up and delivery service, and merchandise shipped via the railroad's package car freight service may get there as fast or faster than if shipped via railway express. So a large group of merchandise has come to be classified as rail express or rail freight depending upon who handles the shipment, and not upon the nature of the merchandise or the speed with which it is handled.

And so with air cargo, attempts have been made to differentiate between air express and air freight. Some say the classification should be based on size of shipment, everything under 25 pounds is air express, and everything between 25 pounds and a plane load is air freight. Rates for larger shipments can logically be lower per pound than for smaller shipments, as the unit handling costs are less, but the differential would hardly be enough to qualify as the basis of a classification, especially one implying a differential in service rendered. In fact it is likely that larger shipments can be handled more expeditiously than smaller ones.

The question of expedited versus deferred

service is often given as a basis for classification between air express and air freight. In my opinion possibilities for a deferred air freight service exist in volume only where the distances involved are great or where the surface competition is poor. In other cases the rates necessary to attract this type of traffic to the air in any volume would be so close to those charged for surface traffic as to make it unprofitable for the air lines. The only cases in which it would appear to be justified would be those where an operator had made a mistake in ordering too much equipment, or too large equipment, and found himself with empty space to fill. From the shipper's standpoint, the only justification for using air service, and paying the premium involved, would be speed. He either wants speed, all you've got, or he doesn't need it at all. In order to attract traffic that doesn't need speed it would appear that rates would have to be on a par with those charged for surface traffic and beyond the point where empty space would be filled, this would be unprofitable to the air lines.

Some would classify goods not receiving a pickup and delivery service as air freight. It is difficult to see any difference in line haul service that would justify the classification. As is the case in the surface transport field

the ultimate differentiation between air express and air freight would seem to depend only upon who handles the shipment. It is entirely possible that specialists will evolve in each field, one concentrating on small shipments, the other on large. One company will identify itself as an air express carrier, the other as a transporter of air freight. However, neither could be expected to rigidly limit the field in which it operates.

Our studies to date indicate that the most likely field from which the transport of general merchandise can be diverted to the air is that now moving by first class railway express. The volume of course will depend upon how low we can get our rates—a factor as yet undetermined. *If we can set them low enough to capture one-half of this market, then a fleet of something under 200 all-cargo airplanes are indicated operating over a route and service pattern superimposed to a large extent on that provided for the passenger service.* However, in the case of an all-cargo service, a unified and through operation would seem to be much more important. Passengers transferring between planes at junction points suffer personal inconvenience, but add little if any to operating cost as in most cases they unload and load themselves. Cargo, however, must be physically handled at a junction point, which adds to the total cost of transport in a field where it is vital to keep costs as low as possible if any volume is to be generated.

We come now to a consideration of the transportation by air of perishable fruits and vegetables and seafood, a field not embraced within any of the categories already discussed. The airborne possibilities in this field are



COAST-TO-COAST—Crates of perishable foods are unloaded from a UAL transport at LaGuardia Airport, New York, after a flight from the West Coast.

most attractive not only because speedy transport is essential in order to prevent deterioration of the cargo, but the transport of perishables by surface means usually involves a weight penalty in the form of ice or other refrigeration. It is hoped that this can be largely eliminated due to the speed when shipped by air. At the present time we are conducting some experiments in actually transporting perishables by air, and are uncovering some very interesting facts. On weekends, when priority mail and express loads are light, and with the permission of the Civil Aeronautics Board, we are flying whole plane loads of fresh fruits and vegetables from California to markets in the East. We are placing them on sale in retail stores right alongside of competitive railborne products and observing the results. So far indications are that airborne produce will sell for a premium sufficient to cover air transport rates of 15 cents to 20 cents per ton-mile.

Whether air transport costs can be made low enough to permit profitable carriage of perishables at those rates has not yet been determined. Yet to be thoroughly studied is the question of whether these sales were largely influenced by high original quality, attractive packaging, advertising and novelty rather than by any real benefits brought about through air transportation. One recent shipment leaving the Pacific Coast on a Sunday did not arrive at its Eastern destination until the latter part of the week because of weather and operational difficulties enroute. It has become apparent that reliability of transportation is all-important, perhaps more so than in the case of passenger service. If a passenger's trip is interrupted enroute he may turn sour, but he won't spoil; a plane load of fruits and vegetables, if unduly delayed, may turn into a plane load of garbage.

Complete reliability must await the installation of blind landing systems, and can be maintained only through the continued use of a highly developed meteorological and dispatch system. These things all cost money.

The apparent market for some airborne produce is of extremely short duration, being confined to a short period at the beginning of

(Concluded on Page 48)

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Lawrence Dale Bell

BELL of BELL

By MALCOLM MACGREGOR

THE tenth anniversary of the Bell Aircraft Corporation—home of the *Airacuda*, the P-39 *Airacobra*, the P-63 *Kingcobra*, and the Bell helicopter—throws a spotlight upon its president and general manager, Lawrence Dale Bell, a Hoosier to whom the community of Mentone lays claim. But today his home is in New York State—in Egbertsville, to be precise, a village of little more than 500 persons.

In reaching back to the early history of Mr. Bell, one stops at the time the 13-year old lad moved westward from Mentone. His father had retired from the lumber business; and, with those of his 10 children who had not preceded him to the West, turned his face toward the setting sun.

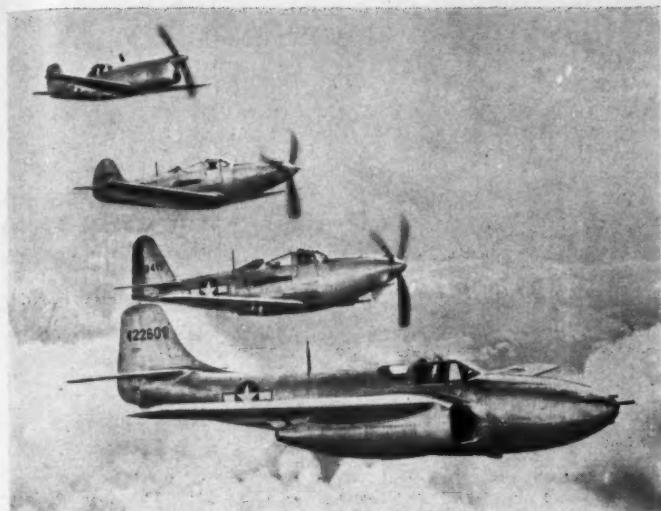
Young Larry completed his high school education two years before the beginning of the First World War, and entered the employ of Lincoln Beachey and Grover E. Bell, his brother. Larry remained earthbound as a greasemonkey while Brother Grover and his partner went skipping through the sky as exhibition flyers. Those were the days when the plane still wore its swaddling clothes—a bare nine years after the Wrights proved for the first time that a heavier-than-air machine could fly.

It was in 1913 that Grover died as the result of an airplane accident. For a short while

that meant the end for Larry in the airplane business, but eventually he popped up as a factory worker for Glenn L. Martin. Like all good success stories, and certainly running in true Horatio Alger form, Larry rose to the position of superintendent in a relatively short time.

The Glenn L. Martin Company moved to Cleveland the year this country entered the war. Larry, all of 23 years old, directed the building of a new aircraft plant. It was in this plant that the first famous twin-engined Martin bombers were produced. Shortly afterward, Larry was promoted to the important post of vice president and general manager.

The youthful executive left Martin in the late Twenties, heading East to Buffalo where he joined Major Reuben Fleet at the Consolidated Aircraft Corporation. Soon he was elevated to the identical positions he had held at Martin. This was the year of the Wall



DEADLY QUARTET—
Reading from top to bottom are Bell's outstanding military aircraft: the all-wood XP-77, P-39 AIRACOBRA, P-63 KINGCOBRA, and P-59 AIRACOMET.

Street debacle—Black 'Twenty-nine.

Under the direction of Larry Bell, Consolidated went on with its work of developing flying boats. In 1935, Consolidated moved to San Diego. This posed a new problem for him, and it was now that he decided to remain in Buffalo and organize his own company.

The Bell Aircraft Corporation was organized exactly a decade ago.

But 1935 was a depression year, and nobody save Bell and his associates was looking at the world through rose-colored glasses. These were hard times, discouraging times; but faith kept them going. Presently one Buffalo busi-

nessman came through with an investment. This made the going somewhat easier, acting as a sort of magnet for additional capital from investors.

These were "sub-contracting days" for the Bell Aircraft Corporation, but the minds of the men behind it were extremely active. In an experimental shop, Larry Bell's ideas of what a military plane should be were being developed with the able assistance of Engineer Robert J. Woods. Then, in 1937, the *Aircuda*—a twin-engined, long-range fighter with pusher-type engines, carrying a pair of flexible 37 mm. cannon—took to the air.

FOREST FLIGHT — A
Bell helicopter noses its way through a heavily wooded area. Postwar commercial and industrial uses are seen for the helicopter.





ANOTHER FIRST FOR THE MAYOR — New York City's peppery Fiorello H. LaGuardia waves delightedly as he takes off in a Bell experimental helicopter.

It was a great start for Bell. A year later a smaller, faster, cannon-toting fighter streaked across the horizon—the *Airacobra*.

Noteworthy is the fact that the *Airacobra* was produced in one corner of Consolidated Aircraft's plant—40,000 square feet of leased space—with personnel ranging from 40 to 100.

The *Airacobra* starting things humming around Bell. According to reliable figures, the peak was somewhere around 50,000 persons distributed among five new plants located in the home city of Buffalo; Niagara Falls; Burlington, Vermont; and Marietta, Georgia. The latter plant is producing B-29 *Superfortresses* for the United States Army Air Forces.

Larry Bell, who was one of the principal organizers of the Air Force League, an organization created to promote national security and permanent peace through air power, has definite plans for the building of aircraft after the war—on a reduced scale, of course.

But helicopters are also on his mind. No grandiose predictions are being tossed around to the four winds.

However, Bell and his associates believe that the helicopter will evolve as a valuable craft for commercial and industrial uses: crop-dusting, pipeline patrol, short-haul mail and commercial deliveries, Coast Guard patrol, rescue work, forest fire prevention, and similar applications.

Bell of Bell is a member of the Board of Governors of the Aeronautical Chamber of Commerce and of the Society of Aeronautical

Sciences, as well as a director of several other companies. Last year he was the recipient of the Daniel Guggenheim Medal for outstanding work in aviation.

LaGuardia Does It Again

When New York City's Mayor Fiorello H. LaGuardia went up in a Bell experimental helicopter on June 22, he became the first American mayor to ride in this type of aircraft—perhaps, even, the world's first mayor.

"It was a wonderful experience, entirely different from any other flying I've done," he was reported as saying. "The helicopter gives you a feeling of complete assurance, and I was impressed by its ability to go backward, forward, sideways, and straight up and down."

"I can see that when these new kinds of aircraft are fully developed and in production, they will provide a kind of flight we have never had before. We will have to do a lot of testing under varying conditions to develop all possible uses, but I have no doubt the helicopter is going to be an important part of our aviation picture."

P.S.—The mayor has done plenty of predicting in the past, and most of it has come true.

NEW WINGS OVER MANHATTAN

AIR TRAVELERS to and from New York—and those who *need* to be air travelers—now find a great new answer to their urgent need for flight accommodations.

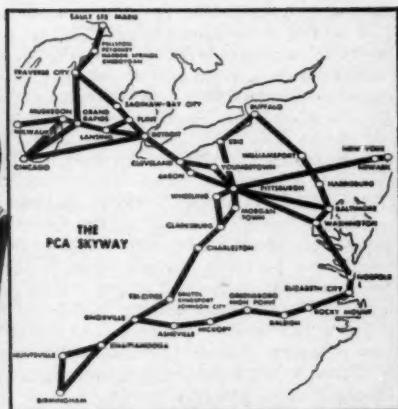


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AVIATION and CIVILIZATION

This is the second of a three-part article which has been called "one of the most important in recent aviation literature." Here is highlighted the close relationship of aviation to modern civilization

By THEODORE PAUL WRIGHT

*Administrator of Civil Aeronautics
United States Department of Commerce*

(SECOND INSTALMENT)

6—TECHNICAL DEVELOPMENT

ADVANCES in technical development and plans for the use of improved equipment must constantly move in parallel; and as technical development takes time, it is necessary in long-range estimates always to evaluate the revised equipment before it is actually ready for use or even finally proved practicable. In this regard, it must be appreciated that as the physical sciences advance, development is analogous to a regenerative furnace, feeding upon itself and ever accelerating. It is always a mistake in planning an operation or a use not to take these factors into account and not to assume in advance improvements concerning which in many cases the hard-headed engineer will only shake his head.

Another point to note is the cooperative nature of development contributions coming from many people in many nations. This was amply evident to me during my trips to England during the war, when a slightly different point of view which had gained ascendancy in your country led to long trains of fruitful speculation on developments which we were considering or had undertaken.

Whereas we, I believe, had something of importance to contribute in our common cause in line production, of turbo supercharging and pressure cabins, of laminar flow wings, precision bombsights and types of naval aircraft; the British in turn showed great foresight on many scientific applications and design innovations, starting out with your early apprecia-

tion of the value of the multi-gun fighter and of the power-operated turret, and then such developments as the gyro-stabilized gun sight, bubble canopy, sleeve valve engine and automatic controls, and finally the gas turbine and jet power plant.

To the Soviet Union we must ascribe the original conception of the potential importance of paratroops, and to Germany the development and use of the glider, the buzzbomb, and the rocket. So, too, in a world concerning itself with the advancement of civilization, there will be need for the national characteristics and aptitudes of all people to supplement the individual effort of a particular state, if optimum progress is to be achieved.

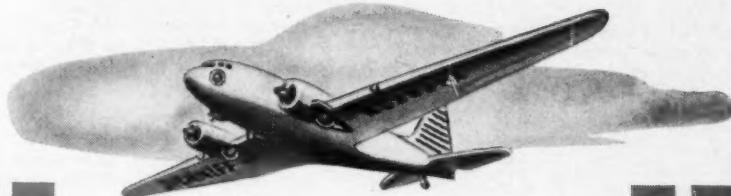
It is important that we use this vast reservoir of knowledge acquired during the war for advancing the general welfare thereafter. Through intensification of research and implementation of technical education, and with the groundwork in technical development in aviation which we now inherit, we are, I believe, on the threshhold of the greatest period of aeronautical development that has yet been witnessed.

To mention but a few items which may revolutionize development I would cite: The gas turbine and jet power plant, which will increase in efficiency as aircraft speeds go up, thus making aerodynamic development a limiting factor in speeds to be attained as distinguished from the power plant limitations (including the propeller) already reached at

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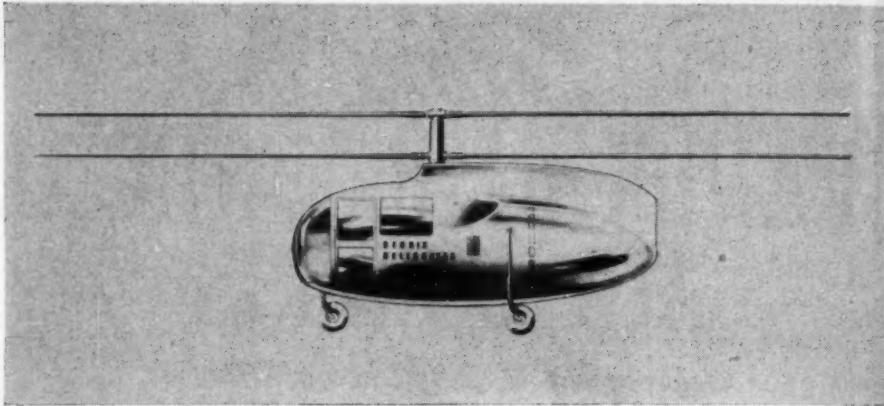
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GREAT FUTURE FORESEEN—Mr. Wright believes that the helicopter "will supplement the air transport plane as the automobile does the railroad." It bids fair to be the popular private plane of the future. Above is a helicopter design by the late Vincent Bendix.

speeds of 475 miles per hour; laminar flow wings; the development of structural designs suitable for such wing shapes, especially in thin sections, necessary to surmount our next barrier—compressibility. Our greatest effort from the research standpoint in the next period of time will be the investigation of aerodynamic phenomena at supersonic speeds. Possibly we have far to go before transcending the speed of sound, but the rapidity of present development indicates that this may be accomplished in the not-too-distant future. It is of interest to note that, having passed the speed of sound, there is some reduction in drag coefficient.

Developments of comparable magnitude and of equal importance to aviation are to be found in the electronic field. Electronic devices which will make all-weather operations safe and practicable are already in the offing and further developments, probably using Radar, will make air traffic control a matter of individual separation as on the roads rather than by ground instruction and control. Each pilot will do his own flying, so to speak, his own instrument weather navigating, determining from his instrument board "screen" his proximity to others.

Then there is the helicopter (only just getting itself off the front pages of popular magazines), which will experience an intensive development which bids fair to make it a popular private plane of the future. It will supplement the air transport plane as the automobile does the railroad. There are, of course, possibilities of combinations of rotating and fixed-wing aircraft, which may achieve both low landing speed and high cruising speed, not apparently attainable by the helicopter itself.

Accompanying these technical developments

is the need for simplifying operation of the aircraft and reducing costs, particularly in the private-owner field, so as to make possible the tremendous expansion there which many envisage.

Again I express it as my belief that the technical development of aviation will be greater in the next 10 years than in the past, and that we must foresee and anticipate this development to a considerable extent in order properly to evaluate the fields of usefulness of aviation in the future.

7—FIELDS OF USEFULNESS FOR AIRCRAFT

Let us appraise several fields of human relations to determine where aircraft can contribute positively to progress; to learn the place of aviation in civilization. All of the fields selected here, and there are undoubtedly others, are to some extent interdependent and overlapping, but the samples given should clearly expose the possibilities.

7A—Economic Uses

This science treats of the production, preservation, and distribution of wealth. Each of these involves employment, which has prompted me to prepare a forecast to indicate how many jobs aviation should provide in the United States. Though even in a decade there is a great drop in employment from wartime peaks, there still appears to be a really important contribution to peacetime economy indicated, with more than 12 times the number of persons employed in aviation as were so engaged just prior to the war. This prediction includes so-called "grass roots" employment; that is, jobs outside the aircraft industry, such as are involved in mining, fabricating, and other-

wise preparing the materials used in aircraft construction, supplying tools for aircraft factories, and other similar services.

The fundamental concept of economics is production and consumption, supply and demand. Between the two is distribution, the function in which air transport will find its greatest usefulness. This service, though economic in character, is therefore dignified by treatment under a separate heading. Another important function entering into business relationships is communications, as distinguished from transportation. This also is treated later on.

There are a great many direct services which the airplane can render that will find their places in our economic life of the future, and, of course, the list will be supplemented by many others which have not even occurred to us as yet.

First there is so-called taxi service, which may be used extensively in transporting persons and goods from small communities to main stops of trunk lines. Many feel that this form of transportation may be found more economical and therefore more extensively used than small feeder-line services operating on a scheduled basis.

Then there are a great number of charter services for which the airplane is admirably adapted, such as crop dusting and insecticide

spraying, aerial planting, spotting services of various natures, such as fire, oil line breakage and fish locations; equipment dropping to furnish needs of persons or communities in isolated locations; and aerial photography, serving a multitude of uses, such as the laying out of golf courses, estates and communities; and preparation of maps useful in crop planting, soil conservation and flood control.

There are also the obvious services pertaining to aviation itself, such as pilot training and aircraft maintenance and servicing.

One of the most promising uses of the airplane and the one most important from the standpoint of world economics is *foreign commerce*. When the airplane finds its proper place in this field, and when confidence in the hoped-for world security organization is established, there will be no need for the uneconomical measures of self-sufficiency which are so paramount in the minds of many at this time. The interdependence of nations in our Machine Age is becoming more and more apparent. For example, an automobile manufactured in the United States uses materials normally obtained from nine locations in widely-scattered sections of the world. Even a telephone requires materials from seven. This all points towards the economic unity of the world.

There is, furthermore, the influence of

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GREATEST POTENTIAL—A cargoplane preparing to land at Golfito, Costa Rica. "The greatest potential here lies in supplying the needs of backward and undeveloped regions where other means of transportation may take weeks or months as compared to hours when carried by air."

world-wide use of the airplane upon geographic division of labor, so that people in all parts of the world can perform the services for which they are the best adapted from the standpoint of skills, climate or proximity to labor or material sources. We thus see that ultimately political unity rests upon rapid means of transportation and communication. Here the airplane's greatest contribution can be expected.

The above outline, though brief, furnishes an indication of the extremely important place that air transportation will play in the future of our economic life as individuals, as communities, as states—all part of a larger world community.

7B—Transportation

Obviously, transportation is part of the general economic structure, and the place in which the airplane can play a basic role. Speed of transportation represents a yardstick for the progress of civilization. This speed may, perhaps, in the immediate future allow us so to accelerate the tempo of commerce and industry as to catch up economically and socially with the time lost and the material destruction of the war. The tremendous activities of air transport services in the conduct of the war are readily susceptible to transfer to uses essential to rehabilitation and readjustment, involving the transportation of food, medicines and people.

The prospect of such major contribution is emphasized by the existing transatlantic flying, amounting to a four-engine plane flying one-way or the other each 15 minutes in the ser-

vice of the United States Air Transport Command alone. *Any medium of transportation which finds geographic conditions no barrier must become of major importance.*

The factor of speed, which, in addition to independence of ground or water barriers, is the most important contribution the air carrier has to make to transportation, must in itself be reckoned with when forecasting increase in air traffic in the future. It is not appropriate merely to extrapolate past performance in order to determine future achievement. Whereas within the aviation industry in comparing individual airplanes, a formula of efficiency such as cruising speed multiplied by pay load and divided by some function of cost is appropriate, it is believed that when comparing different media of transportation with different orders of speed in connection with prognostications of future traffic, it is necessary to give further weight to this speed factor possibly by raising the cruising speed term to the second power.

The advantages of air transport will engender additional traffic not possible without the presence of the greater time-saving involved when traveling by air. (From the engineering standpoint computations have shown that it is well worth while to increase the cost of a given transport plane by well over \$1,000 if by so doing its cruising speed can be increased one mile per hour.) The increase in air traffic will not, it should be stated, be at the general expense of other means of transportation. The whole tempo will be so raised as to carry along with it added traffic best suited for transportation by rail or steamship, although the relative pro-

portions of types of cargo carried thereon may be substantially altered.

Revenue passenger load factors which had stabilized at about 60 percent just before the war rose to about 90 percent during the war period and are expected, after the peace is restored, to become reestablished at about 65 percent. Average length of trip for passengers on United States domestic airlines before the war was about 400 miles.

The present five cents per mile tariff should drop to three cents in 10 years. Forecasting cruising speeds is somewhat of a risk because of the tremendous developments anticipated and previously described. Yet a trend curve bringing these speeds to 300 miles per hour on the average by 1955 is certainly reasonably sure of attainment and admittedly will be exceeded in many specific instances.

On Cost Reductions

One may ask: "What of the prospect of cost reductions of such magnitude as to bring air travel within the reach of the masses of population?"

The trend of statistical information is reassuring in this regard. Whereas for domestic air transport operations in the United States in the 1920s costs on a capacity load basis were of the order of 50 cents per ton-mile, these had by the end of the 1930s decreased to 30 cents per ton-mile; and may, on the basis of civil transport planes now used by the military service, soon after the war, drop to figures of the order of 20 cents per ton-mile for passenger carrying, and 10 cents or 12 cents for carriers of cargo only. It would therefore appear reasonable and has in fact been estimated that during the 1950s we may look forward to cost for passenger carriage on a capacity load basis of the order of 15 cents and for cargo of eight or nine or 10 cents per ton-mile.

When these figures are translated into fares and tariffs by considering load factors of 65 percent or 70 percent and reasonable profits, it would appear justifiable to expect

that during the 1950s passenger air transportation charges of two-and-a-half cents per mile are within the realm of possibility, with express air transportation at rates of the order of 15 cents per ton-mile, thus comparing favorably with rail travel without taking due account of other very real savings (salary, meals, etc.) attendant to reducing in-transit travel time. Certainly passenger travel at three cents per passenger mile and express transportation at 20 cents per ton-mile is assured.

Forecasting ocean travel rates is difficult unless specific trips are taken into consideration in order that the factor of range so detrimental to cost economy may be accounted for. Recent investigators have indicated the possibility of round trips to England from the United States at figures of the order of \$200, or three cents per passenger-mile, and several companies in the United States have actually forecast and published rates not greatly exceeding those figures. I believe these are somewhat optimistic. But even at some increase from this to such a round-trip cost as \$300, which is certainly attainable, *over-ocean travel may well approach the almost astronomical figures that some authorities have recently predicted.*

Although it is probable that air transport will be utilized for the carrying of passengers, mail, and express for the most part, there are possibilities for carrying freight, although probably not commodities of a bulk nature; i. e., those of low value per ton. *The greatest potential here lies in supplying the needs of backward and underdeveloped regions where other means of transportation may take weeks or months as compared to hours when carried by air.*

It is anticipated that carrying of express will advance by leaps and bounds after the war. Whereas at present the proportion of load carried by the domestic airlines of the United States is 75 percent for passengers, 17 percent for mail and six percent for express (with two percent for other uses), it is reckoned that the percentage for express will

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increase to a point where it will approximate that devoted to mail, even though the latter should itself be substantially increased by virtue of the probable eventual removal of any mail tariff surcharge. For over-ocean traffic the percentage devoted to mail before the war considerably exceeded that for passengers. It is believed possible that this disparity may lessen after the war.

Consideration should be given to the factor of population mobility, and I will close this section with a brief reference to the private plane or the personal aircraft. In evaluating the effect which such planes may have on city planning, full account must be taken of the tremendous change in our way of life which will be occasioned by the rooftop landings to which reference is frequently made, though its significance is seldom fully appreciated. If the helicopter should come into its own, as many expect, so that real masses of people could be moved to their places of business from their residences by air, the situation of road congestion would be so altered as substantially to affect the whole architectural arrangement of our cities. Also the possibilities of locating residence sections further from metropolitan business centers open vast vistas for the city planners. Recreational possibilities will be greatly enhanced by this greater mobility.

7C—Communications

Communications are now dependent upon

mail, telephone, telegraph and radio. Movement of persons by slower means such as rail and boat has very properly been considered as transportation rather than communications. Now, however, with Europe and America 15 hours or so apart, and with any part of the world 50 or 60 hours from any other, it is believed proper to devote a special section of this article to the changed position which the airplane, considered as a communications medium, brings to bear.

Now, personal communications over great distances become possible; business and international arrangements can be greatly expedited and meanings clarified thereby. For example, air passenger service over the Atlantic will enable American or British concerns to send their salesmen, engineers, and executives to the other side of the ocean far more quickly and frequently when the need arises than heretofore. Moreover, they will now unhesitatingly go, whereas the time involved before, frequently prevented attaining the direct advantages which closer contact of foreign traders with the markets themselves provide. In addition to transporting the business man himself, the more expeditious shipment of orders, acceptance papers, shipping documents, comprehensive credit advice, specifications, blueprints, estimates and other like information will greatly speed up business relationships.

One further point worthy of consideration is the greater prospect of dissemination and

migration of cultural forms. The spread of Western civilization in many of its forms to all parts of the world is a characteristic of the last hundred years. This was made possible by means of transportation far more rapid than any theretofore available. This further increase in speed due to air transportation will accentuate the prospect of making available to everyone the world over the thinking and developments of everyone else.

7D—Cultural Considerations

Concerning this difficult subject, we must be aware of the greater possibility of leisure which this speeding up of transportation can bring about. Agencies of government should work toward transforming this possibility to reality. It is true, of course, that leisure does not automatically produce culture; far from it. It merely creates an opportunity for developing the arts and cultural aspects of life not available when so large a portion of time of the masses of people must of necessity be devoted to making a livelihood. It therefore is incumbent on other forces, notably education, to develop the desire on the part of those who have this increased leisure to use it effectively and for cultural purposes.

However, travel, which will certainly be greatly increased, has a broadening effect and

should assist in enhancing the cultural life of a great segment of people.

One further point which I would like to make is the mere pleasure which flying can give. There are many millions of people who cannot appreciate the experience that they have ahead of them when they shall make their first flights. For many of us this pleasure in flying continues and increases with each trip. But here let us defer to Jan Struther:

"How hopelessly people fail, Mrs. Miniver thought, when they try to describe flying to someone who has never done it. They leave out all the really important things. They tell you that it saves time and (taking everything into account) money; they tell you that it makes the earth look like a map, cows like ants, and cars like beetles. But they don't tell you that it is staggering, tremendous; that it is not merely an experience but a rebirth; that it gives you for the first time in your life the freedom of a new dimension (for although we know that there are three of them, we are forced to move mainly in two; so that our sense of up-and-downness is necessarily dim and undeveloped compared with our acute perception of the to-and-fro). They don't tell you that when you are up there it is the aeroplane



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ACROSS THE WORLD—An Indian laborer stacking merchandise just delivered by an American air transport. "One of the most promising uses of the airplane and the one most important from the standpoint of economics is foreign commerce," says Mr. Wright.

that seems to be the safe solid core of things, while the earth is a distant planet upon which unfamiliar beings move among unthinkable dangers. They don't tell you, either, that you will be torn all the time between an immense arrogance and an immense humility, so that you are at one moment God and at the next a nameless sparrow. Nor do they tell you what it feels like to thread your way among the noble and exciting architecture of the clouds; nor how—best of all—you may suddenly find a rainbow arched across the tip of your wing, as though you had caught it in passing and carried it along with you."

7E—The International Field

There are many fields of usefulness for aircraft in international affairs. The obvious function of facilitating commerce has been discussed. Also, reference has been made to the opportunity for alleviating economic pressures. It is important that we be aware that the airplane makes possible a greater availability of markets in any part of the world to

any potential customer elsewhere. The trend toward self-sufficiency of nations is believed to be an important contributing factor towards the likelihood of war as it is also a consequence of that likelihood. The need of self-sufficiency could be removed by collective security and international economic and monetary cooperation. All peoples would then be able to do the things for which they have the greatest aptitude. This should mean greater average production with attendant improvement in efficiency since a larger market will be available. The airplane underlines the importance of creating conditions under which the military aspects of aviation will be minimized and its commercial aspects developed. It is important, therefore, that states should place a greater emphasis on the economic aspects of air transport than the political. Should the airplane become the tool of politics with prestige factors entering into policy determinations, its greatest usefulness will certainly be lost. Assuming acceptance of this concept, it is obvious that tariff barriers may be dropped, thus further facilitating world trade.

Another factor is the increase in living space and the relief of congestion which the advent of the air age may bring about. Many past wars have been caused by the fear, real or imaginary, of insufficient living space, and if the airplane can, as is believed possible, alleviate these fears, it will have performed a worth while mission.

All of these factors, particularly the first, should lead towards a general improvement in the world standard of living, a factor which also will be important in our search for the elimination of items which contribute to the likelihood of future wars.

In facilitating international relations the conference method has come to the fore both before the war and more particularly during it. This is believed to be a desirable tendency. We must establish the conference method as an international habit if frictions are to be removed at their inception. The role which the airplane can play in promoting and expediting international conferences is obvious. It has been proved at the several important meetings during the war, such as Casablanca, Teheran and Yalta. In this regard I might also mention the great part played in attaining reasonable success in developing technical annexes for international flying at Chicago. After that conference had started and the delegates became aware of the scope of the discussions planned, it became apparent that many important persons of several nationalities who were particularly competent to deal with these technical matters, had not made the trip to Chicago. These technicians were immediately summoned and within three or four days after the conference started were

available so that the work could proceed effectively.

In all these ways, then, the airplane can be a very proper tool of peace; in facilitating conferences to remove frictions and promote international cooperation, and in permitting more effective international trade and division of labor that provide the whole world as a living space for every people. The airplane should "know no boundaries" and with this conception fully accepted, will be a tremendous force in cementing good international relations.

The acceptance of international agreements and participation in resulting associations must, to be effective, automatically entail the giving up of some rights heretofore considered as sovereign. Just as we are embarking on the conferences which it is hoped will result in a strong international organization, an intensely nationalistic spirit is arising throughout the world. Of necessity war engenders such a trend. It must be appreciated, however, that this emphasis on nationalism and sovereign rights is inimical to the success of the new association of nations. The more appropriate tendency from the standpoint of future peace would be toward greater emphasis on a strong international body on the one hand and more secure individual rights on the other.

In truth we have been fighting for just these things—"To defend," according to the Declaration of the United Nations, "*life, liberty, independence and religious freedom, and to preserve human rights and justice in their own lands as well as in other lands.*" On the other hand, everything in the Nazi philosophy has been in the opposite direction. The importance of the individual under Hitler's regime has been drastically reduced with a view to make the State the supreme objective. Under such a creed it has been fundamental that man is for the State rather than the State for man. The Nazis have eliminated the dignity of man. The proper idea is

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China	Netherlands
Colombia	New Zealand
Czechoslovakia	Norway
Egypt	Peru
Eire	Poland
El Salvador	Portugal
Ethiopia	Turkey
France	United Kingdom
Haiti	United States

well expressed by Thomas Mann:

"We must define democracy as that form of Government and society which is inspired above every other with the feeling and consciousness of the dignity of man."

The Nazi philosophy has, furthermore, pointed away from any association of nations striving for peaceful objectives. Such Axis alliances as have been made have been centered on the ultimate achievement of complete predominance over the world by one or possibly two States. After winning the war to eliminate this point of view, it is of extreme importance that we so organize the United Nations as to assure the proper place and relationship of the individual, the State, and the community of nations. World citizenship is a concept on which few have cared to dwell, but is one which must come into wider acceptance if a permanent peace is to be established.

(Concluded next month)

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AIR TRANSPORTATION NEWS

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Beech and Cessna Propose Merger of Their Companies

The merger and consolidation of Beech Aircraft Corporation and the Cessna Aircraft Company has been recommended by the boards of directors of both companies. It has been proposed that one new share of Beech stock for each three shares of outstanding Cessna stock be issued.

Positive action is dependent upon the approval of Governmental agencies and the submission of the proposal to the stockholders of both companies, the latter course being contingent upon full approval by the agencies.

The merger, if effected, will combine companies which always have had the friendliest relations with each other. Walter H. Beech, president of the Beech Aircraft Corporation, and Clyde Cessna, founder of Cessna, were associated in the Travel Air Company in the earliest days of the aircraft industry. Dwane Wallace, president of Cessna, and Dwight Wallace, executive vice-president and treasurer, are nephews of Clyde Cessna and have operated the company since its reorganization in January, 1934, when they purchased control.

Dwane Wallace was associated with Walter H. Beech in the Beech company in 1933 and 1934 as a designing engineer.

It is believed by officers of both companies that the merger will produce many advantages to both. The postwar aircraft designs of Beech and Cessna are not competitive, but

are mutually complementary. If the two post-war lines are combined, distributors and dealers will have a complete line of private and commercial airplanes to offer to their customers. Airplanes with from two- to 15-place capacity will be available in modern postwar designs under one distributor's or dealer's contract.

In addition to the potential sales advantages, a consolidation of the facilities of the two companies would balance up the various types of fabrication machinery and equipment fully owned by both companies and should result in substantial operating and manufacturing economies.

Another advantage of the merger would be the increased working capital of the combined companies. Such integration would create a combination that would rank among the stronger companies in the field of both commercial and military aircraft.

Officials of both companies especially emphasized that no changes in management or personnel of either company are contemplated in the event that the consolidation is effected. Both Beech and Cessna will continue to carry on their war production and postwar planning without interruption or change.

KLM and KNILM Active

It has been revealed that representatives of Netherlands shipping interests and airlines are working with the Ministry of Reconstruction in the planning of postwar air routes. KLM and KNILM officials attended the conference.

OKAY, NORTHWEST—Mayor F. H. LaGuardia predicting great results for Northwest Airlines' new short transcontinental route. NWA is the fourth coast-to-coast airline, and flies direct from New York—Detroit to Seattle—Portland. Left to right: Burnett Anderson, Minneapolis Daily Times; Mayor LaGuardia; Senator Warren Magnuson; Representative Joseph P. O'Hara; Croil Hunter, NWA president and general manager



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American Airlines' Airfreight is a preview

of the air shipping future. Its operation enables shippers to plan and test their postwar markets, methods and possibilities for profit. This low-cost air service is now available, although government priorities naturally get right-of-way.

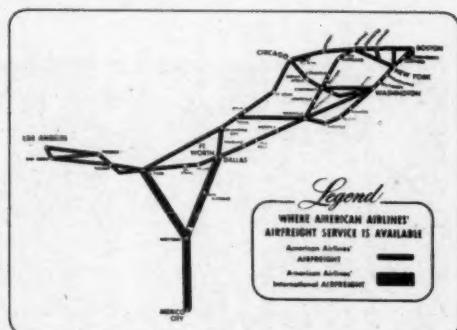
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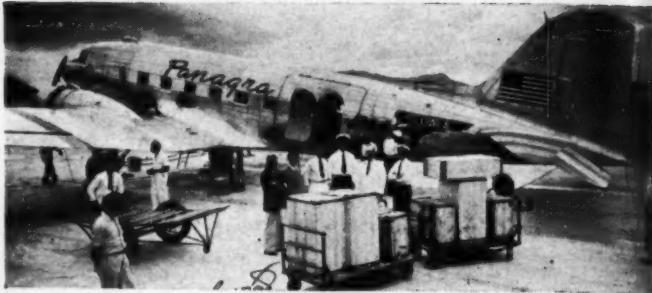


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EVANS DEFENSE PLANT FILERS
ARMY NAVY "E" HENNAKER

MINING EQUIPMENT
—On hand to greet the Panagra P-50 as it landed in Ecuador were (left to right) J. Bruce Cameron and Stenio Govea, of SADCO; Alberto Philippe, of Expresos Aereos de Ecuador; Captain John Brumbaugh, pilot; Ramon A. San Antonio, of SADCO; and E. Kendall, of the Guayaquil Airport. This is only one of the many such scenes taking place in the mountainous regions of Latin America.



Air Cargo Plays an Important Role In The Economy of Latin American Regions

Air Express Shipment By Panagra Saves Mining Area From Economic Strangulation

A priority air express shipment weighing 2,895 pounds—the largest single commercial air express shipment in recent years—was credited with rescuing an important mining region in Ecuador from economic collapse. Consisting of generator bobbins and repair parts, the shipment was sent from the New York office of the South American Development Corporation and was transported on the last leg from Balboa, Panama Canal Zone by a Pan American-Grace Airways' P-50 cargoplane.

Paralyzed since January 22 due to a breakdown in the generators of the electric plant at Galera, which produces 60 percent of the energy consumed in this mining district. SADCO had been forced to discontinue operations, and its 1,000 workers were jobless. Moreover, because the development company, which operates gold, lead, and silver mines in Portovelo, Canton, and Zaruma, spends great sums weekly in the payment of wages and in the purchase of materials for the interior of its mines, 40,000 people in this region were directly or indirectly affected by the work stoppage.

Panagra, on learning of the arrival of this vital shipment at Balboa, immediately dispatched its cargoplane to carry the mining repair parts as fast as possible to Ecuador to alleviate this critical situation. In so doing, not only did Panagra break a record in transportation of cargo, but it also demonstrated once more the important part which commercial aviation must play in the economy of a nation, and, for that matter, the world.

Two Mining Companies In Nicaragua Extend Contracts With TACA

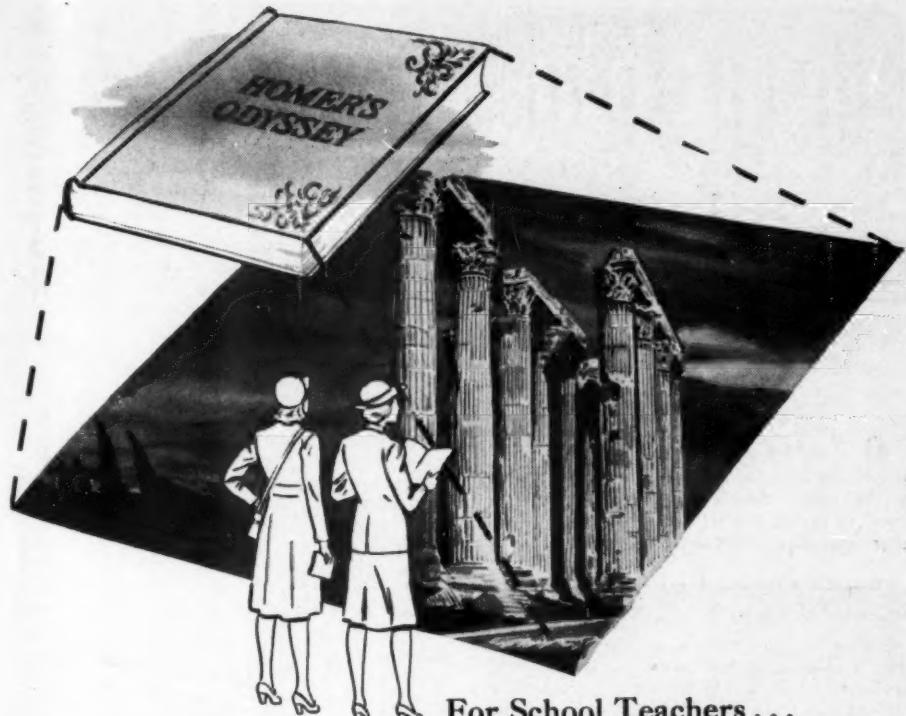
TACA, which since 1936 has transported more than 70 million pounds of air freight for the La Luz Mining Company and Neptune Gold Mining Company in Nicaragua, will continue its special air cargo service for the mines for the period of at least another five years as the result of a newly-signed contract.

According to mining officials, increased production schedules will have TACA planes flying some two million pounds of cargo each month. Meanwhile TACA is girding itself with some additional cargoplanes, which will include the Douglas C-47 (DC-3). To accommodate these new aircraft, two new 4,000-foot runways are being constructed.

"TACA's old operations in Central America are being modernized and streamlined," said Lowell Yerex, TACA president and general manager. "The day of the faithful tri-motored Ford is over. Although TACA expects competition in the postwar era and two other companies have secured contracts in Central America, neither one as yet has gone into operation. The government of Guatemala has taken over Aerovias Guatemala which was owned by Alfredo Denby and Pan American."

The airline has recently renewed its aviation contract in Honduras for a 10-year period and is in process of doubling its maintenance facilities in San Jose, Costa Rica, Yerex added. He pointed out that TACA's domestic operations in Central America were expanding, as well as international service, with daily trips to Mexico City and four trips a week to Havana with charter extensions.

(Concluded on Page 46)



For School Teachers . . .

the printed page will come alive!

**With new, low, postwar
Clipper fares, educators will
SEE the Acropolis as well as
read about it . . .**

A DOCTOR is not licensed to practice medicine until he has supplemented his textbook work by serving a "clinical clerkship" in a hospital . . . and usually an internship of one to two years.

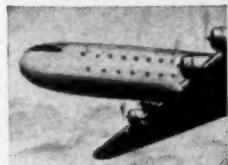
An airplane pilot is not eligible to take the examination for becoming the Captain of a commercial plane until he has had one thousand, two hundred flying hours in addition to textbook work.

But a teacher of a foreign language, or of the history of a foreign country, for example, has often never set foot in the country concerned . . . The cost of travel has been too high . . . Or the trip would

have taken too long, or both factors, working together, have forced the teacher to stay at home.

Herein lies the future importance to American education of the 100- and 200-passenger, 300-mile-an-hour, postwar Clippers recently ordered by Pan American World Airways. Educators, traveling aboard these Clippers at new, low rates, will know the world, as well as what has been written about it . . . They will have seen the world as well as having read about it . . .

The printed page will come alive!



Giant, 200-passenger Clippers will bring postwar fares within reach of the average man and woman.

For your postwar Clipper trip see your travel agent or

**PAN AMERICAN
WORLD AIRWAYS**
The System of the Flying Clippers



AIRDOM



by Richard
Malkin

(Trade Mark)

A POSTWAR JOB

NO one will deny that full awareness of the air came with the war—with Warsaw and Rotterdam and Coventry, and all the other great cities razed by bombs dropped from aircraft thousands of feet above the earth's surface.

But if the horror of death from the sky has taught the potency of the plane to the peoples of the world, this left-handed education may work in the reverse if the plane is not immediately and conscientiously presented in its

true light; as a civil carrier of passengers and goods; as an instrument of *gain*, not of loss. Efforts in this direction must be cohesive, comprehensive, concentrated—and, most important of all, intelligent.

It is unfortunate though unavoidable that a certain percentage of the people have retained the inability to divorce the thought of a crashing warplane from civil flying. The fact must be driven home that the warplane is a target, while the civil aircraft is merely a conveyance *safely* utilizing another element to transport people and cargo from one point to another in as little time as possible.

Riding in New York City's subways, I have often eavesdropped on conversations pitched in the high tones normal to riders of the clattering underground. One hears young women discussing the contents of letters from their sweetheart or husband airmen, speaking of crashes with affected naturalness. Mothers display their fears while hanging on the swinging strips of leather. Men, as usual, try to be flippant about it.

But what about the psychological residue after the war has been brought to an end and civil aviation begins to reach out to its planned extent? Will the average man and woman—potential passengers—take to air transportation as easily and naturally as they do to the train and automobile? Will there be a carryover of fear—an unreasonable fear, yes—but nevertheless a real fear which may retard the aviation industry for a number of valuable years?

It is here and now that the industry, not without cooperation from the Federal Government, must plan a campaign of information. There must also be a balance somewhere. The infrequent crash of a transport plane gets front page headlines in all the newspapers, but the fact that 16 United States airlines, flying more passenger-and-ton-miles than ever before, went through 1944 without a single fatality is buried deep among the pages, while other newspapers prefer to forget the story entirely.

"Do you plan to travel on commercial airlines after the war?" asked *The Milwaukee Journal* in an effort to discover the truth. A total of 72,613 men were polled, of which 31.9 percent answered in the affirmative. What are interesting, however, are the reasons of those who admitted to not planning to use the commercial airways after the war. Although 39.3



FOR SAFETY—Flying 68,018,116 passenger-miles in 1944 over an international network of 8,800 miles without a single accident or fatality to passengers or crews earned this certificate for Panagra. Twenty other airlines serving Latin America received safety awards and 16 domestic lines won similar recognition. Richard Malkin points out that such news is buried deep among the pages of the newspapers, while "the infrequent crash of a transport plane gets front-page headlines."

percent stated that they had no objection to riding in planes but had no occasion to use the airlines, 24.8 percent gave reasons of "safety and health."

The latter group, forming one-quarter of the total, comprise the category which needs first to be educated. Typical of their replies were: "I'm afraid" . . . "I haven't enough courage" . . . "I'm subject to sickness" . . . "I have a family to consider."

Another section of opinion recorded by *The Milwaukee Journal*, forming 20.9 percent, declared that air travel was "too expensive." This will be taken care of in time, of course. The balance of 15 percent gave reasons of preference for ground travel. Included in this group may be considered those who did not care to admit to fear, as well as those who believe the scenery can be best enjoyed while on the ground and who stop frequently enough to rule out the commercial airliner. Most of this category is fertile territory for the private plane and helicopter manufacturer and salesman.

In connection with high fares, another survey by the Research Department of the Charles W. Hoyt Company, New York, brought out that "the ratio of popularity between airline and railroad travel for postwar vacations, regardless of distance, was 50-50. When, how-

ever, the question refers to a trip of 3,000 miles and assumes equal fares, the preference in favor of the airplane is seven-to-one. If, however, the factor of cost is changed and it is stated that air fares would be higher than railroad, the ratio changes to four-to-one in favor of airlines as compared with railroads."

The Hoyt survey goes on to say that "as between the preference for airline or steamship for distances of 3,000 miles, the ratio of plane to steamship, at equal fares, is 10-to-six in favor of air travel. Nor is this figure appreciably changed if it is assumed air fares are higher. The ratio favoring the plane is 10-to-five-and-a-half."

Now, there is this to consider: *The Milwaukee Journal* and the Hoyt Company surveys were sectional ones, the former polling its own area and the latter the Northeast territory. Also, the 1,100 persons questioned by the New York company were known to be travelers.

A few paragraphs back it was reported that roughly two-thirds of those polled by the Milwaukee newspaper had no plans of using the commercial airlines after the war. Compare this with the opposite results of the Collier-Crowell Publishing Company survey of August, 1944: 65 percent of those interviewed (2,000 civilians in the upper 50 percent of



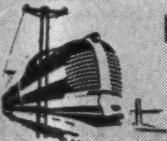
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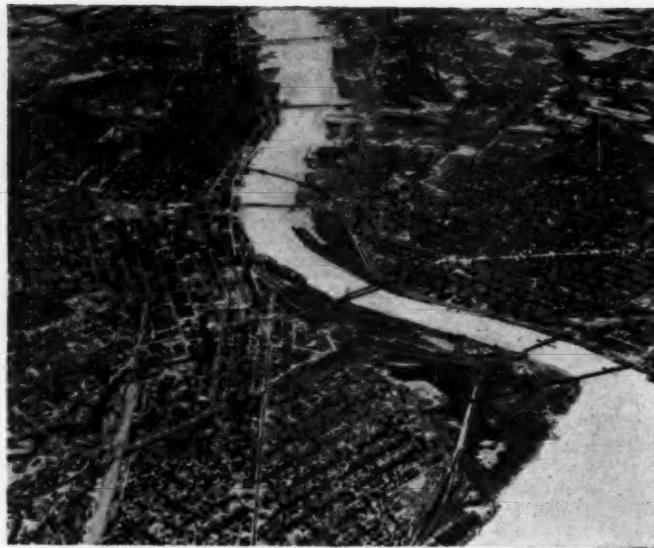
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TOLEDO TODAY—The Ohio city as it looks today. This photograph was taken on June 2, 1945.

urban population) expect to fly in commercial airline planes after the war; 35 percent do not.

Reasons for not flying? Practically the same as those polled by the newspaper! So, once again, there pops up the necessity for educating the traveling public.

TALE OF TWO CITIES

"Two years ago, Philadelphia was a whistle-stop on the nation's air map," says *The Philadelphia Record* in its highly effective brochure, *Back on the Air Map*. "America's third largest city could boast but one airport . . . and even that one had inadequate passenger accommodations . . . and then things got worse! As though this condition was not bad enough, the Army provided the *coup-de-grace* when it ordered Philadelphia's lone airport closed for reasons of war security. And for the past year-and-a-half this industrial colossus on the Delaware was no more important, as far as civilian aviation is concerned, than a crossroads community in backwoods Pennsylvania . . . not even a 'whistle-stop.'"

Philadelphians will remember John F. Budd's warning last November 1 when he appeared as the principal speaker before 700 members of the Philadelphia Rotary Club, the Philadelphia Chamber of Commerce, and the Philadelphia Board of Trade. He pointed out that in 1940 it was possible for a city to have contact with 192 other air stations, but that the City of Brotherly Love actually had contact with only 55. And then the Army came.

"Philadelphia must move fast if it is to realize its destiny in air transportation," said *The Record*.

The city needed such spankings. It applied a helpful pin to the seat of Philadelphia's historic, tradition-steeped pants. As a newspaper, *The Record* played an important role in feeding a "jet propulsion pill" to the city fathers. The result is that Philadelphia's new Northeast Airport has been opened for commercial airline passenger, mail, and express service, with American, TWA, Eastern, National, United, and All American operating daily schedules connecting the city with New York, Boston, Washington, Miami, Los Angeles, San Francisco, Seattle, and many other points.

Out Toledo-way, a group of Government, business, and educational leaders comprising the Toledo Tomorrow Committee, have emerged with a plan for an airport virtually in the heart of the important Ohio city which would "for the first time in the history of a metropolitan center unify air, rail, and bus services."

It is estimated that the city will need no less than five airports to take care of its post-war commercial and private air traffic. The central airport, covering approximately 800 acres, has been placed by its planners only five minutes' ride from Toledo's business district. This would be devoted exclusively to serving passenger, mail, and express traffic. The other four airports? Three would be turned over for private aircraft, and one would be utilized as an air freight terminus.

The plan includes the city's Union Station as well as a tract of partly marshy land adjoining the Maumee River. Each of the three double runways will reach to a length of 5,700 feet. These would extend away from the business district, and may be reached by de-

TOLEDO TOMORROW

—The same area with its face lifted for the Air Age. Note the airport which is virtually in the heart of the city.



parting passengers by means of elevators rising through the airport's aprons.

It is understood that the rail and motor approaches to the city would be underground, while the railroad tracks emerging from Union Station to the west are to be covered over to gain distance for the airstrips.

According to Major Alexander P. de Seversky, consultant on the project, "air traffic

will be stacked up instead of spread out, and electronics will be developed to the point where airplanes will stay on a track." The plan also takes in a system of express highways and provisions for helicopters.

It appears that the next few years will see a radical change in the face of the United States. But Progress never wore the same face twice.

TWA Files for Resumption of Its Air Freight Service

Transcontinental and Western Air, which 14 years ago inaugurated the country's first air freight schedules, has petitioned the Civil Aeronautics Board for permission to reestablish air freight service.

An air freight tariff was filed with the CAB, providing that charges be established on an airport-to-airport basis, with separate charges for pick-up and delivery which will be made available at the option of the shipper. E. O. Cocke, TWA vice president of traffic, said that the service will be conducted on a "limited and experimental" basis, owing to present limitations in number of aircraft operated.



E. O. Cocke

"The air freight shipments," he added, "will be handled on a deferred basis, and air freight will be accepted on the basis of availability of space after passengers, mail and regular air express have been accommodated. TWA reserves the right to defer the freight from one flight to another throughout the day in order to take advantage of all available space. The service will be slower than regular air express but will be faster than the fastest surface transportation."

Commodities will be rated under four classifications, the charges varying between 30 and 55 cents a ton-mile, dependent on the classification of shipment, compared to the air express rate of 70 cents a ton-mile.

At the outset, the service will be offered only between New York, Chicago, Kansas City, Phoenix and Los Angeles. City air freight terminals will be established in each of the five cities, and shippers may either use airport-to-airport service, city terminal-to-city terminal facilities, or door-to-door service, or any combination of the three, the charge depending upon the service used.

LEGAL NOTES on Air Transportation



By GEORGE BOOCHEVER

*Chairman, Legal Committee, Aviation
Section, New York Board of Trade*

(Mr. Boochever returns to the pages of *AIR TRANSPORTATION* after attending the United Nations Conference at San Francisco. This month's topic is devoted to the Flight of Aircraft over Another's Property.)

The increasing use of the airspace above an owner's land for air transportation raises a number of interesting and novel questions. The old legal formula was that ownership of land was "from the center of the earth to the sky." When invented the use of space above land was usually confined to the narrow limits of overhanging eaves on encroachments by buildings. Today, the sky is the domain of the airplane. It is obvious that an owner of land can hardly claim any rights in airspace thousands of feet above the land surface. But when flights are so low as to be an invasion of airspace resulting in actual or potential hardship to the owner of the land over which the flight is made a problem arises which is not so simple nor so easy of solution.

The courts have, in a number of instances, dealt with such situations. One of the leading decisions is *Henman et al v. Pacific Air Transport Corporation; Same v. United Air Lines Transport Corporation* (decided by the United States Circuit Court of Appeals for the Ninth Circuit July 20, 1936, petitions for writs of certiorari denied by the United States Supreme Court February 1, 1937).

It was alleged by the complainants that they were entitled to the use of the airspace to an altitude of not less than 150 feet above the surface of the land that the defendants operated aircraft through the said airspace at altitudes less than 100 feet above the surface, and damages were claimed in excess of \$300,000. The lower court dismissed the complaints. On appeal, the Circuit Court held that "whether such close proximity to appellant's land may constitute an impairment of his full enjoyment of the same is a question of fact. If it does, he may be entitled to relief in a proper case."

In the instant case the court decided that appellants were neither entitled to injunctive relief "because no facts are alleged with respect to circumstances of appellant's use of the premises which will enable the court to infer that any actual or substantial damage will accrue from the acts of the appellees complained of"; nor to damages for trespass. As the court said, "traversing the airspace above appellants' land is not, of itself, a trespass at all, but is a lawful act unless it is done under circumstances which will cause injury to appellants' possession"; and since the bill of complaint did not allege a case of actual and substantial damage and was based on "a naked conclusion as to damages without facts or circumstances to support it," it was held that "the complaint does not state a case for injunctive relief."

However, where defendant conducted an air school and permitted flights to be made over plaintiff's summer camp at an altitude of less than 1,000 feet, thereby disturbing and endangering the occupants of the camp, it was held that the flights over the camp constituted trespass and flights near its borders constituted a nuisance. The decision was that "under the law no plane can fly within 500 feet of the ground except in taking off or landing at any place, and over a congested area not within 1,000 feet of the ground. These are the minimum altitudes above which a plane must be flown, but even above such altitudes there may be circumstances which would make it unlawful to fly even above these altitudes at certain given places." (Mohican & Reena Inc. v. Tobiasz, et al., Masters Final Report, filed in the Superior Court, Hampden, Massachusetts, February 2, 1938.)

(To be concluded in next month's issue.)

Want to Go Round the World?

Even at this early date Pan American World Airways already has a waiting list of passengers for its postwar round-the-world trips.

This would be accomplished, on the shortest route, by flying from New York, via Lisbon, Marseilles, Rome, Athens, Cairo, Basra and Karachi to Calcutta, there connecting with the Pacific Division of Pan American to continue on around the world via Bangkok, Canton, Tokyo, Paramushiro, Anchorage, Seattle and San Francisco to New York. Distance would be 21,000 miles and flight time 88 hours. The cost would be approximately \$700, less than the present round-trip rate to Europe.

CAA Conducts Tests

Tests have been started by CAA on the Douglas DC-4, the Consolidated Model 39, and the Curtiss Commando for conversion from military to civilian use.



IN STEP WITH THE AIR AGE—Model of the airport terminal which soon will be constructed in Curacao, capital of the Netherlands West Indies, main base of KLM's Caribbean operations and regular stopping place of PAA planes between Miami and Venezuela. L. F. Bouman, KLM representative in the United States, who revealed the project, stated that the building will cost more than \$250,000. It was designed by the Curacao Public Works Department in close consultation with KLM and PAA. Construction is expected to reach completion before the end of the year.

MCA Express Rates

Announcements of special air express commodity rates for newspapers, magazines and periodicals, applying between all stations has been made by Mid-Continent Airlines. The new rate is based on 60 percent of the present air express rate with a minimum of 2½ cents per pound or \$1 per shipment. Air Express, REA, will handle these shipments.

Thumbs Down on Bill

The McCarran "chosen instrument" bill for post-war aviation was defeated last month in a 7-2 vote at a closed session of the Senate Commerce Subcommittee. Senator Pat McCarran's substitute proposal, which would have barred domestic airlines from participation in foreign aviation, also was defeated, 6-5.

Contest Winners

Winners of the essay contest on *The Future Development of Aviation*, which was sponsored by the Chamber of Commerce of the State of New York, were announced as Nick Kfoury, age 16, of the Brooklyn Technical High School; Joan Swenson, age 17, of Saint Angela Hall High School, Brooklyn, and Elliot Austein, age 14, Junior High School No. 65, Manhattan.

UAL Hits New Mark

United Airlines last month passed the 300,000,000th mile mark in its commercial operations—equivalent to 12,000 trips around the globe.



RECORD-BREAKER—This type 90-passenger Boeing C-97 is being considered for purchase by Northwest Airlines for use on its new transcontinental service. Known as the STRATOCRUISER, the plane early this year sped from Seattle to the nation's capital in slightly more than six hours. According to Croil Hunter, NWA president and general manager, the airline will need from eight to 10 four-engined planes on its transcontinental through service alone.

London Airport Designers Focus On a Plan for 400,000-Lb. Planes

A DESIGN for a London airport which would take in 24½ square miles and provide facilities for both giant landplanes and seaplanes has captured first place in a contest sponsored by the British aviation publication, *The Aeroplane*. The prize of £500 has been awarded to H. J. Coates, of Bristol; E. R. Morgan, of Middlesex; and F. W. Smith, of Bath.

Notable is the fact that tremendous stress has been placed upon facilities for huge post-war aircraft. Giving the proposed field a life span of from 15 to 20 years, planes reaching to 230 feet in length, 60 feet in height, 300-foot wing span, and a weight approximately 400,000 pounds are envisaged. It has been assumed that a daily total of 200 arrivals and departures will take place. Peak traffic is put at 24 planes per hour.

The trio of designers, who have planned for eight runways, the largest of which is 10,000 feet with space for an extra 5,000 feet, provide for separate strips for take-off and landing. All the main runways radiate from the loading apron, the central spot housing the terminal building. Thus, aircraft coming in for a landing need only taxi to the farther end of the strip to discharge passengers or cargo. On the other hand, outgoing planes may leave on an adjoining strip without being retarded. The high point in this is the drastic reduction of taxiing.

An adjoining artificial lake, 12½ miles in area, would take care of the flying boats. The designers have provided for four lanes.

The core of activity is the terminal group of buildings, the most important of which is the seven-story Main Building. Its concourse finds location for the principal traffic office, operating companies' offices, shops, post office, and two private suites specifically for the "accommodation of distinguished passengers." Baggage would be moved by mechanical conveyors.

Access to underpasses leading to and from the Marine Building and the airport railway station is on the lower ground floor. There, too, would be a movie theater, beauty parlor,

and dressing rooms. A terraced restaurant is on the first floor, while the fourth and fifth floors are given over to hotel accommodations: 52 doubles, 44 singles, four swanky suites—with a bathroom for each bedroom!

Other buildings in the terminal area provide space for such activities as the handling of passengers, baggage, freight, mails; offices and other accommodations for airline officials, operators, plane crews, airport control services. There are also provisions for hangars, garages, parking areas for automobiles, canteens, and employees' dining rooms capable of serving 1,000 persons.

Mr. Coates was formerly employed by the Bristol Aeroplane Company as an architect. He left that post to become senior assistant architect of the British Overseas Airways Corporation. Currently he is cooperating with Britain's national housing project.

Mr. Morgan still is with BOAC where he became employed five years ago. He was for three years resident civil engineer of BOAC's marine base in the United Kingdom.

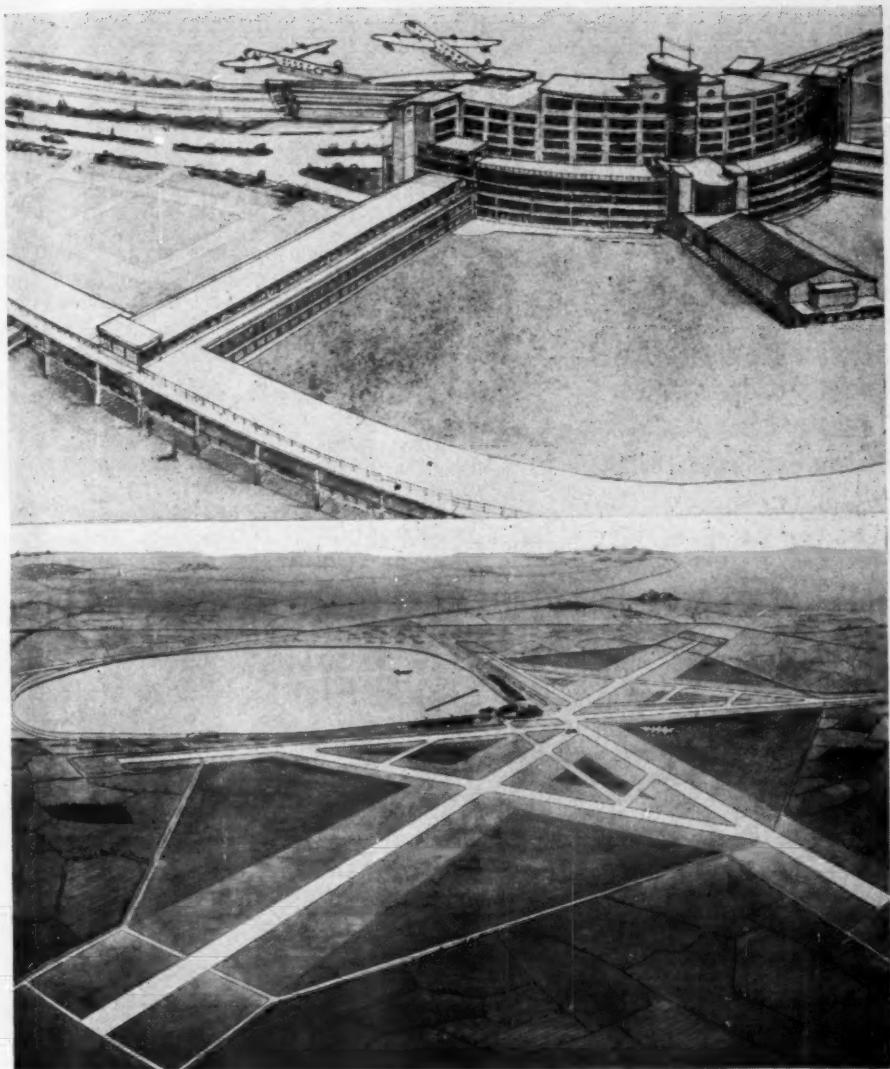
The third member of the prize-winning team, Mr. Smith, is 30 years of age. He has participated in the planning of the Bath Guildhall which is being converted into a civic center. Also a member of the BOAC staff—assistant architect for the Europe and West African Region—he previously served as a surveyor and civil engineer on Royal Air Force airport and aircraft factory projects.

It is understood that the three men worked every night for six weeks prior to the closing date of the contest in order to develop their first-prize design and draw the plans.

Second prize was won jointly by WO (1st Class) A. H. Wilson, of Yorks; Corporal F. J.



DE LUXE—A front view of the Main Building as seen by the prize-winning airport designers. Note the terraces on each side, affording a view of the big field. There are hotel accommodations for large numbers.



PROPOSED AIRPORT—The proposed seven-story Main Building (above) in the center of the 24½-square-mile planned airport. This view is from the loading apron, showing in the background the artificial lake for flying boats. Below is an aerial perspective of the prize winners' design for a London airport. It would provide for the biggest types of landplanes and seaplanes.

Fletcher, of Notts; Corporal A. S. Oddy, of Yorks; and Sergeant R. Clegg, of Newcastle-upon-Tyne—all members of the Royal Engineers. This brought them £100.

Third prize was captured by L. F. Liscombe, of Mill Hill, bringing him a sum of £50.

A panel of five judges selected the winners:

Air Vice Marshal D. C. T. Bennett, of the RAF Pathfinder Force; Austin Blomfield, airport expert; Dr. H. Roxbee Cox, aeronautical scientist, chairman and managing director of Power Jets, Ltd.; Dennis H. Handover, air adviser to British Railways; and W. R. Verdon Smith, member of the Board of Directors of the Bristol Aeroplane Company.

IT'S AN *Air* WORLD

REG. U. S. PAT. OFF.

By L. A. GOLDSMITH, *Economic Analyst, Air Transportation*

SENORITA ROSITA ARGUELLO, recently appointed cultural attache at the Salvadorean Embassy, believes that the airplane is a "gift of God" and that flying is an "enthraling experience." "Just think of it," she exclaimed, "I leave Miami in an airplane, and in six-and-a-half hours I am home in El Salvador!" And she added: "The same thing holds good in reverse when I return to the United States." This lovely young woman, who possesses a beautiful coloratura soprano voice, flies back and forth between this country and her own—the Central American Republic of El Salvador, having as her objective the exchange of art and music with an overall backdrop of culture with a capital C.

Senorita Rosita Arguello Becomes Cultural Attache To the United States at The Embassy of El Salvador

Culture is a "product" of international exchange, which does not have to hurdle tariff walls and is more easily understood than language; especially when it comes to music. Further, when we consider the need for international understanding, and the exchange of courtesies between nations, we all remember the old proverb, "Music hath charms," etc.

Miss Arguello is an artist in her own right, and the owner of a glorious singing voice. She really has what it takes to carry out her diplomatic duties in her specialized field. Her charm is only partially indicated by her photograph. When she sings in costume or in concert dress she is enchanting, almost elf-like in appearance and sparkling with animation. Her diplomatic appointment will not interrupt her professional singing career, but instead will coincide with it. For this reason, while she is accredited to the embassy in Washington, she will divide her time between Washington and New York, and will make her professional tours when these are necessary.

* Rosita Arguello is a member of one of El Salvador's oldest and most influential families. After completing her general preliminary education, she was sent by her Government to France to study at the Paris Conservatoire. A brilliant coloratura, she graduated from the conservatory with the highest honors and a first prize in singing. She was then engaged for the Opera Comique in Paris, and made her debut there in *Lakme*, and also sang Olympia in *Tales of Hoffman*. Her operatic career in France was rudely interrupted by the outbreak of war. She came to the United States and has been giving concerts here as well as in her own country.

While in this country Miss Arguello became interested in the Community Concerts system of organized membership audiences, which has been a huge success in the United States for many years, and now operates successfully in 350 cities. Community Concerts, Inc. is a non-profit division of Columbia Concerts, Inc., whose president is the well-known concert manager, Arthur Judson.

Mr. Judson, together with Andre Mertens, who is the director of the South American and Mexican Division of Columbia Concerts, had long been considering the adaptation of the Community Concerts technique to Latin American and other countries. This year, for the first time, they have inaugurated a series of five concerts, each with a different artist, in a number of Latin American cities: Mexico City, Guatemala City, San Salvador, San Jose, Panama City, Colon, Bogota, Barranquilla, Cali, Medellin, Quito, Guayaquil, Lima, Caracas, Maracaibo, San Juan (Puerto Rico), Ponce Mayaguez, Ciudad Trujillo. In order to arrange for the organiza-



tion of these artists' appearances in her own country, Miss Arguello flew to San Salvador, the capital city and her home town. She reports that the first artist who appeared there, Todd Duncan, baritone (*Porgy and Bess*), received an ovation.

Under the sponsorship of the Columbia Artists, five artists in all are making these Latin American tours totaling 100 concerts in the space of about three months. These are Bruno

Castagna and Emery Darcy, of the Metropolitan Opera Company; J. M. Sanroma, pianist; William Primrose, violist; and Todd Duncan. Their successes have been consistent. The artists like air travel, too. It gets them there on time and with ease.

This cultural international exchange of music and artists which is to be developed through these series of Community Concerts in foreign countries is known as Intarin,

one of those telescoped words, abbreviated to convey the thought behind the plan, namely that of *Intercambios Artísticos Internacionales*; or in plain English, Interchange of International Artists. Intarin was originated by Mr. Mertens which is visualized as a new type of global exchange for all countries. It should be emphasized that this new project is only made possible because of the facilities available today—swift and regular transportation by air. The expansion of this idea bids fair to become one of great value between the United States and Latin America as well as other countries throughout the world.

Under the system so effectively organized with Community Concerts in this country, adequate financial returns to the artists are assured. The local concert managements avoid deficits, while the public obtains first-class concerts at a price within its capacity to pay. The system is simplicity itself. A definite number of people are organized in advance on a subscription basis, as a membership audience, and the money is collected in advance. The town's concert committee, knowing what money is on hand, then proceeds to select the number of the concerts as well as those artists, within the limits of their finances. Result—everyone is happy. Artists guaranteed financial returns in advance; people of the community know what they are getting at prices they can afford to pay; and the local concert management calm in the knowledge that everything is paid for in advance.

The reasonableness of this Community Concerts plan, and its long established success in this country, inevitably pointed to the logical development of a similar plan for the music loving countries of Latin America. As a further evolution of this musical interchange, Columbia Concerts has worked out another plan whereby each South American country which contracts for a certain number of concerts by North American artists, may have a similar number of concerts arranged for one or more of its own musical artists in another South American country or countries. Eventually it is hoped to arrange for these Latin American artists to have concert tours arranged for them in the United States. The long-range postwar plans envisage this development as well as a similar reciprocal interchange with North and South Africa, Australia, Alaska, and Europe.

From these ambitious plans it could be that the Great Circle flying routes of the future will be kept busy with a constant stream of musical artists in their 'Round the World Community Concert Tours.

Lady's Day would seem to be indicated for this month's *It's An Air World*. Here we have Miss Arguello who becomes a cultural attache; and now we go on to talk of still another young woman, Miss Dolores Armisen, who is up and coming in her specialized field—that of the export manager. She too, knows the value of air travel and right now is using it to good advantage.

A progressive young business woman who is the director of the Latin American Department of Dodge and Olcott Company recently left on an airplane trip to take in all of South America during the next three months. Miss Dolores Lluy Armisen plans to visit her present distributors; in all probability, appoint new ones, and discuss plans for postwar trade.

Miss Armisen is fully aware that many new sales channels for her products may have been obtained through lack of competition from hitherto established sources of supply from European markets. She is therefore planning her postwar sales with intelligence and ingenuity, so that she can utilize all available possibilities in addition to her dependable and well established

Airplane Speed of Travel Speeds Up Global Music International Exchanges With Community Concerts

merchandise. She plans to develop new methods and to work her plan along flexible lines to take advantage of the bigger and better facilities now available through new and modern conditions of air transportation and communications.



One of Miss Armisen's ideas is to suggest to her dealers the advisability of ordering high-priced essential oils and perfume base extracts to be shipped by air. In this category flavorings and aromatic chemicals could also be considered. These products are in a price category where the convenience of speed in despatch and continuity of shipments in small quantities would offset any additional possible cargo costs by air. Furthermore the speed of turnover on these merchandise purchases by the dealers would increase their profits appreciably, when based on the same financial investment. Therefore, in the long run, the additional cost via air cargo would be wiped out when counterbalanced with the increase in profits and the convenience of having quicker shipments at short intervals.

Dolores Armisen's own personal background was the reverse of preparation for a business career. But her success goes to show

that she has the flexibility and adaptability which is one of the most valuable characteristics in handling the kaleidoscopic changes of world trade under today's conditions. Miss Armisen was born in Cuba—at Guines, near Havana—and graduated from a local school there, as well as from the University of Havana. After that came study in the United States at Strayer College and George Washington University in Washington, D. C., in preparation for a diplomatic career, which she had already started at the Cuban Embassy in Washington.

Family reverses developed, and young Dolores turned her thoughts to more prosaic lines, such as the export field. She began by entering the export departments of a number of pharmaceutical lines, as well as advertising this same type of products. After acquiring her basic experience in export trade practices and the pharmaceutical lines, she came to Dodge and Olcott seven years ago as a translator. The company then had no Latin American Department, but with Miss Armisen's initiative and resourcefulness, Latin American business began to develop and has continued successfully from then on.

Looking at the course of events outlined by Miss Armisen, not only on her present trip, but her subsequent plans for cumulative business developments, her future export career seems to be well on its way to a constantly progressive forward trend.

ACCENT ON THE PERSONAL PLANE—Shown upper right is Republic Aviation's SEABEE, a commodious amphibian, in flight over Lake Memphremagog, Vermont. The flight from Farmingdale, Long Island, was made with P. H. Spencer at the controls and Gordon C. Sleeper and "Tex" Rankin as passengers. Republic intends to turn out the plane for postwar flier at a price under \$4,000. Lower right is the Stinson VOYAGER 125, a four-seated craft. It has a speed of 128 miles per hour and a range of 580 miles. Four other types of personal planes are on the Consolidated Vultee division's list for the civilian market. Manufacturers of personal aircraft are looking forward to great things.





(Trade Mark)

With the inauguration of night flights to Havana on June 27, Pan American World Airways increased its schedules to 56 flights weekly between the Cuban capital and Miami.

The Aeronautical Chamber of Commerce of America, Inc., has announced the change of its name to the Aircraft Industries Association of America, Inc.

The first State law authorizing high school contracts for student flight instruction is now on the books at Wisconsin whose Department of Public Instruction has worked out, with the technical assistance of the CAA, a recommended program of four hours of flight experience to supplement classroom aeronautics studies.

Harvey J. Thornton, formerly airport manager of Armour Field, Bartow, Florida, has moved his planes and equipment to the Lake Wales Airport, Lake Wales, Florida.

Have you seen the new illustrated air express map of Postwar Town, U.S.A., published by the Air Express division of REA? It's a honey!

John T. Shannon and Don Ernesto Aranibar, respectively vice president and Bolivian representative of Panagra, were hosts to Bolivia's President Gualberto Villarroel, his cabinet members, and United States Ambassador Walter Thurston at commemorative ceremonies at El Alto, the world's highest commercial airport. This was the tenth anniversary of air service in Bolivia.

The four-engine Skymaster (C-54) of the RAF Transport Command last month completed a 9,120-mile round trip from England to Karachi, India, in two days, eight hours, and 11 minutes. Actual flying time was 42 hours and 23 minutes—26 hours and eight minutes by day; 16 hours and 15 minutes by night. The average speed was 215 miles an hour.

KLM is hoping to inaugurate soon a Southern route to Surinam and Venezuela, thus establishing a direct connection between the Netherlands and Netherlands West Indies.

The first air shipment of drugs to be flown direct from New York to Brazil was aboard a TACA plane chartered by E. R. Squibb & Sons. It transported two and a half tons of pharmaceutical products including sulfa drugs destined for Sao Paulo.

The reopening of the Antwerp, Belgium, office of the American Express Company was announced last month. According to reports the office had not been damaged during the war.

PAA is now able to accept a limited number of shipments to England, Scotland, Wales, Eire, Northern Ireland, Portugal, Liberia (Moravia only), Azores (Horta only), Portuguese Guinea (Boloma only), and Senegal (Dakar only).

According to Louis C. Sorrell, director of research of the ATAA, studies made for the domestic airlines show that sizeable tonnages of freight are not likely to be carried by air until air cargo rates break through the 25 cents per ton-mile level including pick-up and delivery.

Oliver L. Parks, president of Parks Air College and Parks Aircraft Sales and Service, Inc., East St. Louis, Illinois, recently announced that the latter organization has completed a contract with Marshall Field & Company of Chicago for the sale of *Ercoupe*s in Chicago's big department store.

Fairchild Aircraft's C-82 contract with the Army Air Forces has been doubled and changed to a fixed-price basis.

Atlantic Air Academy, a new boys' school designed to have the relationship to aviation that military schools have to the Army, will open in September at Rye Beach, New Hampshire, under Dr. Franklin G. Williams.

The Costa Rica Government has contracted with TACA for mail transport to Cuba, Mexico, Honduras, San Salvador, Nicaragua and Panama.

It has been predicted by Martin Del Corral, president of the Avianca Airlines, that postwar flights from Bogota, Columbia, to New York will be \$100.

Alfred M. Hudson, general traffic manager of Colonial Airlines, foresees postwar commercial use of many military airports throughout the Southern States.

Rather than wait for two to three years until the British aircraft industry can bring their planes up to the level of American aircraft, Scottish Aviation Ltd. has announced its preference for operating now with American planes.

A new air route linking El Paso, Texas, with Tulsa, Oklahoma, via Hobbs, New Mexico, has been awarded the Continental Air Lines. An example of economy in time is a comparison of surface and air transportation on the Lubbock-Wichita Falls run. Travel by surface means requires seven hours and 30 minutes; via air the trip is exactly 65 minutes.

Edward Warner, vice chairman of the CAB, has been selected as the United States delegate on the council of the Provisional International Civil Aviation Organization, which will assemble shortly in Montreal.

Furness, Withy Company, Ltd., has been appointed agents in Newfoundland for American Export Airlines. Authority has been received from the CAB to offer a new round-trip excursion rate of \$150 for New York-Botwood flights which previously were \$110 each way.

C. S. (Casey) Jones was a guest speaker on Radio Station WNYC's feature program, *Destinations New York*, which is under the direction of Edgar H. Bauman.

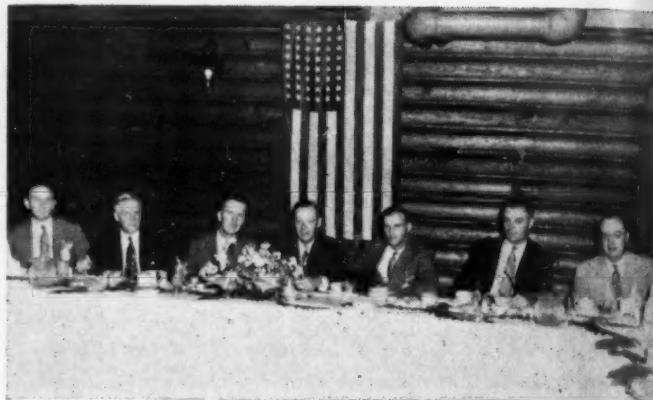
Operating under contract to the ATC, American Airlines announced last month that it had completed its 7,000th crossing of the Atlantic.

A total of \$93,000 in war bonds was sold as more than 40,000 people jammed Westchester County (New York) Airport to see the display of army bombers and fighters. Purchasers of \$500 bonds or over were given free rides in Piper Cubs piloted by CAP instructors.

Transpacific commercial air transportation in PAA planes are expected to be resumed on or before the first of the year.

According to the Aeronca Aircraft Corporation, light planes for civilian use will be in production shortly before Labor Day, without interference with remaining military orders. Immediate production will be of two models carrying two persons each, with 65 horsepower engine, 90 miles per hour cruising speed, and seats side-by-side or tandem.

NEWARK ON THEIR MINDS—A part of the group which discussed the future of Newark Airport at a luncheon in the Sheraton Hotel last month. Left to Right: C. H. Rex, Jr.; E. W. Wolmuth; John F. Budd; Mayor Vincent J. Murphy; Michael Yamin; Deputy Mayor Arnold M. Hess; E. Curry Dugan.



Syracuse Airports Parley Hears Talk by John F. Budd

Democracy's relationship to the Air Age was the subject of a luncheon address delivered by John F. Budd, publisher of *AIR TRANSPORTATION* and chairman of the Aviation Section, New York Board of Trade, at the Airport Management Conference sponsored jointly by the New York State Aviation Council and the New York State Bureau of Aviation. The all-day affair was held in Syracuse.

Participating in the morning session were Timothy F. Cohan, vice president of the New York State Aviation Council; M. P. Catherwood, of the New York State Department of Commerce; and Major Leslie A. Bryan, director of the Bureau of Aviation.

Among the afternoon participants were John W. Allen, another vice president of the Council; Joseph R. Yarrow, of Airways Engineering Consultants; William A. Barry, Commissioner of Parks, Syracuse; William E. Cullinan, Jr., Bureau of Aviation; W. F. Luke, manager of Schenectady County Airport; William B. Woolsey, assistant to the vice president-properties, American Airlines.

TACA Contracts Extended

(Continued from Page 32)

sion to the key port of Miami.

These mines which are primarily gold-producers are among the largest of their kind in the world. Each mine employs 3,000 people. Originally discovered by the Indians centuries ago and then rediscovered by the Conquistadores, both mines were worked sporadically over the years but finally closed down 25 years ago because operations could no longer be conducted on a profitable basis because of their inaccessibility and the consequent transportation problem. The appearance of TACA changed the story.

The most spectacular cargo ever carried by TACA were several Bucyrus electric shovels which when assembled weighed over 64 tons each. The largest single unit of these shovels flown in weighed 6,000 pounds. Aside from these shovels more than 30 pieces in excess of 5,000 pounds each were transported, including sedans and trucks. At present fuel oil is carried by flying tankers of 600 gallons capacity each, as well as fresh vegetables and meat.



HEAVY CARGO—
Loading a Diesel unit
on a TACA Ford car-
goplane at Siuna Air-
field, La Luz Mines,
Nicaragua. Air freight
is the very life blood
of the mines in Nica-
ragua.



(Trade Mark)

AIR EXPRESS

International air express shipments, not including traffic to and from Canada, showed an increase of 41.6 percent for the first quarter of 1945 over the same period last year, the Air Express Division of Railway Express Agency reported. A total of 75,077 shipments were handled during the first three months of 1945. In April, a gain of 37 percent over the same month last year, was reported.

A gain of about 38 percent in gross revenue on New York air express traffic handled at LaGuardia Field during May over the amount reported for the same period 1944 also was announced. The total for May was \$351,945 as against \$256,429 for the previous year. Air express shipments gained nine percent during the month with 59,252 handled at the field, compared with 54,753 during the previous May.

MID-CONTINENT

MCA revenue for April, 1945, was \$227,027.58, an all-time high in the history of the company and an increase of 53.8 percent as compared with April of 1944. The net profit of the company was \$26,332.40 as compared with the net profit of \$13,180.45 for the same month of 1944. The number of revenue passengers carried was 5,443 in April, 1944, and 10,387 in April of this year, or an increase of approximately 90 percent. Other comparative figures are: revenue miles flown, 228,507 and 168,199; passenger miles flown, 2,800,230 and 1,545,418; mail and express pounds, 173,440 and 136,990.

NATIONAL

NAL broke three operating records during May, according to announcement by H. S. Parker, Jr., vice president, flying more revenue passenger miles, more revenue miles, and carrying more revenue passengers than in any other month in its over 10 years of operation.

Revenue passengers carried totaled 13,522, compared with 9,999 carried in May, 1944, this being an increase of 35.23 percent; 6,704,700 revenue passenger miles were flown in May, 1945, a 106.08 percent increase over the 3,253,408 revenue passenger miles flown in May, 1944. The 559,090 revenue miles flown two months ago were an increase of 109.14 percent over the 267,332 revenue miles flown in May, 1944. NAL carried 112,756 revenue passengers in 1944. This was more passengers than were carried by the airline during the combined years of 1938 through 1942.

NORTHWEST

Total operating revenue of NWA for the three months period January 1 through March 31, 1945, was \$2,356,373.32. This report also revealed a profit of \$194,846.30 for the quarter before income taxes but after deduction of special reserves. Net profit, after deduction of all charges, amounted to \$77,846.30.

Air express amounting to 243,465 pounds was carried 165,588,075 pound miles during May. This was more than double the 121,674 pounds carried 71,663,714 pound-miles during May a year ago. The totals compared with 185,375 pounds of express carried 111,238,845 pound-miles during April of this year.

Heavy increases in the air mail load also were reported. During May, 571,890 pounds of mail were carried 439,740,361 pound-miles, compared with 504,728 pounds carried 395,714,287 pound-miles in April, and 355,548 pounds carried 289,096,359 pound-miles in May, 1944.

PAN AMERICAN

Nearly one million passenger miles per day were flown by the Flying Clippers of Pan American World Airways during the first three months of 1945, according to the company's quarterly traffic activity report. Showing only the activity of the three United States-based operating divisions, not including Latin American affiliate companies, China National Aviation Company or the Africa-Orient Division, the *Clippers* logged a total of 82,074,246 miles in the 90-day period.

The *Clippers* carried 80,189 passengers during the first quarter, with 72,225 passengers of that total accounted for by the Latin American Division. This year's quarterly report shows an increase in the division of 15 million passenger miles flown and 14,000 passengers carried over that of the same period in 1944. PAA's *Clipper Express* totaled 4,523,181 pounds and international air mail 3,625,412 pounds for the 90-day period.

President Juan T. Trippe, in the company's seventeenth annual report, revealed a gross business of \$93,000,000 in 1944. This compares with \$27,300,000 in 1940, the last prewar year. Reported net income was \$1,619,309 as compared with \$1,929,764 in 1943. The 1944 figure, however, does not include compensation for the carriage of mails from the United States to Africa, and to and from Alaska.

PAN AMERICAN-GRAVE

Promising to shatter the all-time performance record established last year, Panagra in the first quarter of 1945 showed a significant increase in operations over the corresponding period in 1944. In this three-month period Panagra flew 18,529,426 passenger miles over a distance of 1,257,026 miles; and carried 22,165 passengers, 514,922 pounds of express and freight, and 80,927 pounds of mail.

Last year during the first three months the figures totaled: 16,099,517 passenger miles, 20,831 passengers, 70,088 pounds of mail and 419,817 pounds of express and freight. This year's 90-day record also surpassed the 18,357,409 passenger miles and 21,927 passengers carried in the fourth quarter of 1944.

PENNSYLVANIA-CENTRAL

By carrying 58,358 passenger during April, PCA more than doubled its traffic count for the same month last year, and came within a few passengers of establishing an all-time monthly record. A new high in revenue passenger miles flown was reported. In the four months, a period during which operating factors are less favorable historically than in the remaining months of the year, PCA has flown 191,358 passengers and has emerged from the period with net profits, after taxes, of \$161,391. This can be compared with a deficit of \$56,681 for the same period last year.

UNITED

Air express traffic over the UAL coast-to-coast route in May increased 62 percent over last year, and air mail 22 percent, according to C. P. Gradick. An estimated 520,910 ton-miles of air express were flown during the month, compared with 321,723 miles for May of 1944. Air mail ton-miles for the month were 1,924,160 as compared with 1,547,838 for May, 1944.

It was further reported that 51,165,600 revenue passenger-miles were flown in May—an increase of 37 percent over the 37,414,589 total for May of last year.

WESTERN

A first-quarter net profit of \$117,607.45 was shown by WAL, the nation's oldest air transport organization.

Total operating revenues by the airline increased 158 percent in the initial three months of 1945, as compared with the same period in 1944. The 1945 first-quarter operating revenue was \$1,575,932.27, as contrasted with \$610,244.24 in the first quarter of 1944. The first-quarter operating revenues of WAL for 1945 include the earnings of Inland Air Lines, a new subsidiary purchased on June 1, 1944. Of the total increase in operating revenues of \$965,688.03, Inland contributed \$360,392.51, while increases on the Western system accounted for \$605,295.52.

Revenue passenger miles for the first four months of 1945 were more than doubled, over the corresponding months of 1944. In April, revenue passenger-miles flown by the line showed a 93.34 percent increase over the same month of 1944. This year, the total revenue passenger-miles for April was 6,892,966 and in 1944 the same month recorded 3,565,182 revenue passenger-miles.

A computation of figures for March, 1945, proved that WAL had trebled its revenue passenger-miles over March, 1944. March, 1945, showed a total of 6,867,216 in contrast with a March, 1944, figure of 2,325,928, or a total of 195.25 percent increase. Express pound-miles flown by Western Air during the first quarter of 1945 show a 25 percent increase over the same period last year. A gain of 64.93 percent was shown for April, 1945, over April, 1944.

'Chuted Cargo Successful In New Tests at Capital

Parachute-delivery, previously successfully demonstrated at Mercer Airport, Trenton, New Jersey, came through again with flying colors in a series of tests at the Washington National Airport. Cooperating in the tests to show that communities without airports need not be denied the advantages of direct air delivery schedules, were Pennsylvania-Central Airlines, the Switlik Parachute Company, and the Manhattan Storage & Warehouse Company.

In the demonstration a PCA *Capitaliner* flew over the airport at 130 miles an hour and ejected sacks and parcels through a rear door by means of a conveyor developed by PCA engineers. Opened by a static line, the parachutes fell free for a few feet, billowed, and dropped slowly from approximately 200 feet to the grass plot beside the runway. All landed easily within a few feet of each other, without damage to their contents.

Air cargo shipments by the Railway Express Agency are now limited to 375 communities as far as direct air service is concerned. By the use of 'chute-delivery, any community on an airline route could be served without slowing down the planes' high-speed operations. Of particular importance would be the delivery of mail and high priority cargoes to small, isolated communities in Latin America, Northern Canada, and Alaska, where landing facilities are undeveloped and where surface transportation is practically negligible.

Speaking About Air Cargo

(Continued from Page 13)

a harvest season. It disappears rapidly as soon as railborne produce begins to arrive in quantity and when the market becomes flooded with local produce.

The business is highly seasonal, and producing areas change rapidly from place to place. Likewise consuming markets are subject to change in location because of rapidly fluctuating price levels. To meet these conditions there will be required a considerable amount of non-revenue deadhead, or ferry mileage, all of which will add to the cost of operation. We have experienced last-minute cancellations of plane loads at the source, brought about by the adverse effect of weather on crops in the field at the time of picking. In a regular operation the resulting costs of idle airline overhead would have to be considered. Return loads are a problem; they may not originate or terminate at the same points, or have the same seasonal pattern as perishable traffic,

again causing some costly unproductive mileage.

All of these adverse factors must be faced by anyone attempting intelligently to plan the future. Attempts will be made to solve them. Assuming that the solutions provide reasonably low operating costs, then the resulting perishable traffic volumes should be extremely attractive. Not only is there possibility of diverting present surface traffic, but entirely new markets for perishable products may be created for produce that now cannot move at all by surface means. Extreme flexibility of the service pattern is indicated, with routes shifting to meet the ever changing locations of supply and demand. Perhaps this is the field for the contract operator. Whether the high standard of service required can be most efficiently offered by individual contract operation, or by the airlines under some pooled operating plan remains to be seen.

AIR TRANSPORTATION

Congratulations



Ralph S. Damon



C. R. Smith

MAJOR GENERAL C. R. SMITH, former Deputy Commander of the Army Air Transport Command, who has been elected to the new post of chairman of American Airlines; and **RALPH S. DAMON**, vice president and general manager, named president.

Mr. Smith served as president of AA from 1934 to 1942, resigning in April of the latter year to enter military service. He was awarded the Distinguished Service Medal for organization of military transport services, the Legion of Merit for supply activities in North Africa, the Air Medal for rescue operations in Burma, and participated in the Distinguished Unit Citation for the transportation of supplies to China.

Mr. Damon was formerly president of the Curtiss Aeroplane and Motor Company, leaving that position 10 years ago to become vice president of operations for AA. He left the airline in 1941 to take over the post of president of the Republic Aviation Corporation, and there was instrumental in the production development of the P-47 *Thunderbolt*. He returned to AA in 1943.

M. E. SULLIVAN, former chief of the Tariffs and Rates Section of the Civil Aeronautics Board, appointed manager of rates and traffic for Western Air Lines.

The new WAL executive has been with the CAB for the past two years. Prior to that time he was active for more than 20 years in rates and tariff work with the Southern Rail-

way System and other transportation organizations in the East. Mr. Sullivan was formerly assistant to Charles E. Bell, internationally known transportation specialist. Before joining the CAB, he served as examiner in the United States Government General Accounting Office.

A first sergeant in the last war, Sullivan attained the rank of captain in the present war. He is a graduate of the Atlanta Law School (1937) and has been active in civic affairs, especially in Atlanta, Georgia, where he was director of the Junior Chamber of Commerce from 1935 to 1937.

MAJOR JOHN T. STICKNEY, appointed superintendent of Eastern Air Lines' passenger service, with headquarters in New York City.

In the Army Air Forces Eastern Flying Training Command, Major Stickney's last assignment before joining EAL was as Commanding Officer of the 44th Four-Engine Pilot Training Group at Lockbourne Army Air Base, Columbus, Ohio.

He enlisted as a flying cadet in 1939 and received his pilot training at Randolph and Kelly Fields, Texas, being commissioned a second lieutenant in August, 1940. He received his major's oak leaves in March, 1943. Major Stickney was assigned to the Training Command and was at first an instructor at the single-engine advanced training schools, Brooks Field, Texas, and Maxwell Field, Alabama.

In 1941 he was made Assistant Air Corps Supervisor at the civilian contract flying school, Albany, Georgia, with complete charge of cadet military training. Later, Major Stickney was Commanding Officer and Air Corps Supervisor at the civilian training school, Douglas, Georgia. While there he pioneered in the use of women mechanics and dispatchers.

In 1943 he was made director of training at the advanced twin-engine school, Valdosta, Georgia, and from there became Commanding Officer of the Four-Engine Pilot Training Group at Lockbourne. He was retired from active service in the Spring of this year.

Born in Toledo, Ohio, he graduated from Kenyon College, Gambier, Ohio, in 1936, and was with the Travelers Insurance Company until 1939, when he entered the service.



US

ROBERT G. McLAIN, superintendent of public relations for the Railway Express Agency, named manager of the Air Express Division's Eastern departments.

Mr. McLain's career in the express business has been marked by steady elevations to posts of greater responsibility since he began as a driver with Wells Fargo in Seattle more than 25 years ago. His rise from the ranks has been uninterrupted except for a year of service with the United States Navy during World War I.

In 1925, Mr. McLain was appointed commercial agent at Seattle, and in 1927 became traveling commercial agent. In 1930, he was chosen traffic agent in the Northwest, and in 1938 district sales manager at Omaha. He was brought to the Public Relations Department at 230 Park Avenue, New York, on November 15, 1942, to take over the newly created post of supervisor, and in 1943 was advanced to superintendent.

Mr. McLain is married and lives in Mount Vernon, New York. He will be in charge of air express activities in the general area between Washington, D. C., and Montreal, Canada, and from the most easterly point of New England west to Pittsburgh.



STANLEY W. BEDELL, appointed export sales manager of the Sperry Gyroscope Company in addition to his responsibilities as general field service director.



ization as compass test engineer 22 years ago. Mr. Bedell succeeds the late Howard Welch as Sperry's export sales manager.

BEVERLY E. HOWARD of Orangeburg, South Carolina, president of the Hawthorne Corporation, who has been made a director of All American Aviation.

Mr. Howard, a certificated pilot, also is first vice president of the National Aviation Trades Association, director of the Aeronautical Training Society, chairman of the Membership Committee of the Feeder Airline Association, and was recently appointed a member

of the CAA Non-Scheduled Operation Advisory Committee. He was associated with Eastern Air Lines until 1938 when he resigned to assume active management of the Hawthorne aviation enterprises.

RICHARD E. PFENNIG, vice president—Eastern Operations of United Airlines, at present Deputy Assistant

of Staff Operations of the North African Air Transport Division at Casablanca, who has been promoted to full colonel.



Colonel Pfennig recently helped set up operations procedures for a fleet of Douglas C54s engaged in returning veterans from Europe. He also is responsible for the setting up of overall operations for the North

African ATC Division's Indo-China route known as the skyrocket run, which has made

possible 46-hour air service from New York to

India on regular daily schedules. (See June

issue of AIR TRANSPORTATION.)

Starting his aviation career in 1918 by organizing round base operations for the nation's first air mail service between Washington and New York, Colonel Pfennig went on leave from United in August, 1942, to help build the then fledgling Troop Carrier Command. He was recently commended for his part in arranging aerial operations for the historic Big Three meeting at Yalta.

WESLEY J. WILSON, and **JAMES S. HUNTER**, named respectively traffic manager of TACA Airways Agency in New York and district traffic manager in Miami; and **EILEEN RODDICK-ROBERTS**, appointed New York passenger traffic manager.

Mr. Wilson comes to TACA from Pan American Airways where he has had a varied traffic experience including handling of all traffic personnel through Central and South America during the airport development program, traffic manager of the African Division, and more recently at the traffic office in New York. Prior to this he was for 19 years with Thomas Cook & Sons. By 1925 Wilson was producing more business than any other employee in the organization, a record he maintained until 1927 when he was made manager of the Madison Avenue office in New York. In 1931 he was promoted to manager of the San Francisco office where he also handled freight imports and exports, and international banking. In 1935 he was promoted to national sales promotion manager with headquarters in New York.

Mr. Hunter came with TACA in October, 1943, as an accountant in the New York office. He transferred to the Traffic Department in March, 1944, where, until his present assignment, he handled air cargo and express matters. His airline affiliation before joining TACA was with Pan American-Grace Airways in Lima, Peru. Prior to this, he was connected with the Continental Can Company.



Before joining TACA, Miss Roberts was with Trans-Canada Airlines in Toronto and Ottawa as staff supervisor in the Traffic Department. Miss Roberts was born in Wales, but came to the United States as a young girl and graduated from High School in Dallas, Texas. She later attended Queens University in Canada.

REED M. CHAMBERS, veteran Flyer of the First World War and president of United States Aviation Underwriters, Inc., elected to the presidency of the Wings Club.

Mr. Chambers succeeds J. Carroll Cone of PAA, who has been president for the past two years. The newly elected Wings Club head went through the last war with the first American pursuit squadron to reach the front. He was one of the ranking American aces and served

as commanding officer of the 94th Aero Squadron. Both he and his predecessor have been very active in Wings Club as well as aviation affairs.

DENIS MURRAY, raised to the post of New York regional traffic manager for Pennsylvania-Central Airlines.

For the past nine years Mr. Murray has been in traffic work for TWA, serving in New York for five years, and since as the airline's district traffic manager in Washington. He is a native of New York, where he attended St. Benedict's Prep School before joining a Wall Street financial house, previous to entering traffic work.

Mr. Murray will maintain headquarters at PCA's traffic offices in the Ritz Towers Hotel, Park Avenue at 57th Street. PCA's operations offices will be maintained at LaGuardia Field.



Wesley J. Wilson

James S. Hunter





Julia M. Scanlan



R. J. Lindquist



Donald A. Duff



Joseph A. Uhl

JULIA M. SCANLAN, former assistant secretary, elevated to secretary of Curtiss-Wright Corporation and its subsidiaries; and **R. J. LINDQUIST**, vice-president and controller, who also takes over the post of treasurer.

Miss Scanlan, who as secretary takes over one of the most responsible offices held by any woman executive in the aviation industry, has been associated with Curtiss-Wright or its subsidiary, Wright Aeronautical Corporation, since she joined the latter organization in October, 1928. She has been assistant secretary of Curtiss-Wright and the Wright company since September, 1938, and has been assistant secretary of a second subsidiary, the L. G. S. Spring Clutch Corporation, since September, 1944.

When the Aircraft War Production Council, East Coast, Inc., was established in September, 1943, by all the major warplane manufacturers of the Eastern United States, Miss Scanlan was elected secretary and treasurer, a post she held until June, 1944.

Mr. Lindquist joined Curtiss-Wright Corporation and was elected a vice-president in charge of its finances in August, 1943, after having served as vice-president and director of the Reynolds Metals Company since 1941. Previously, he has held several important Washington, D. C., posts, being chief auditor of the Reconstruction Finance Corporation from 1932 to 1941, and a vice president and director of the Defense Plant Corporation and a director of the Rubber Reserve Company.

JOSEPH ANDREW UHL, appointed to the position of assistant to the president of Continental Air Lines; and **DONALD A. DUFF**, elevated to the post of executive assistant in charge of traffic and sales.

Mr. Uhl comes to CAL from the Pueblo Savings and Trust Company which he has headed as president for the past 12 years. Previous to this connection he held positions with the Lippincott Company and with Proc-

ter and Gamble. At one time he was a member of the treasury department of the Kroeger Grocery and Baking Company of Cincinnati, Ohio.

Mr. Uhl holds a master's degree in business administration from Harvard University. He also is a graduate of the Cincinnati University Engineering School. His wife, the former Ella Adams, who died in February, 1942, was a daughter of the late Senator Alva B. Adams of Colorado. Mr. Uhl is 38 and has three children.

Mr. Duff has for the past two years handled special public relations assignments throughout CAL's territory as well as municipal, State, and Governmental relations. He joined CAL two years ago coming from Boston where he was joint traffic and sales manager for Northeast Airlines. Previous to his affiliation with NEA he was division traffic manager and representative for Pennsylvania-Central Airlines in Washington, D. C. Mr. Duff entered the airline business in Pittsburgh 14 years ago.

ALL AMERICAN:

Richard D. Warfel, appointed personnel director . . . Harry R. Stringer, elected chairman of the Cargo Traffic Section of the Air Traffic Conference, ATAA.

AMERICAN:

E. J. Foley, elected to the Board of Governors of the New York Metropolitan Section, Society of Automotive Engineers.

AMERICAN EXPORT:

President Sumner Sewall, named a trustee of Colby College, Waterville, Maine.

BENDIX AVIATION:

William T. Gossett, elected general counsel.

BRANIFF:

Theodore W. Gibson, appointed superintendent of maintenance . . . S. J. Ingram, assistant to the president, who has been placed in charge of the administrative office.

CONTINENTAL:

William E. Amlong, named executive assistant for the airline.

CURTISS-WRIGHT:

Ed Grayson, former research analyst for *The St. Louis Globe-Democrat*, now staff assistant in the sales publicity and promotion department at the St. Louis plant.

EASTERN:

Lieutenant Colonel George T. Cussen, who has joined the airline to take over the post of assistant to the general traffic manager . . . Major Levi H. (Dick) Dice, former EAL captain, who recently smashed the Moscow-Washington flight record.

MARTIN:

Peyton M. Magruder, elevated to the position of director of commercial sales . . . John H. Humpstone, named as his assistant . . . Howard Stansbury, now sales engineer of the Mars and other flying boats . . . John E. Soenke, appointed manager of special projects.

NATIONAL:

William M. Stevens, raised to the post of sales manager in charge of sales promotion for the entire line.

NORTHEAST:

John S. Wynne, named legal counsel.

PAN AMERICAN:

George J. Brands, chief meteorologist of the Latin American Division, whose book, *Meteorology—A Practical Course in Weather*, has just been published by McGraw-Hill.

TACA DE COLOMBIA:

Wilbur W. Bradley, who now carries the title of superintendent of operations.

TRANS-CANADA:

Roy Lockhart, formerly station manager for the line at Sydney, Nova Scotia, appointed assistant station manager at Prestwick, Scotland.

TRANS-MARINE:

Officers of the new airline: Vice Admiral A. B. Cook, retired, chairman of the board; Hobart A. H. Cook, president; Commander John L. Remmert, Lieutenant Commander William McDonald (both on active duty), Herman E. Riddell, Edward G. Lowry, Cary Luce and H. B. Ashley, directors.

TWA:

R. L. Proctor, raised to the job of chief flight engineer for the airline's domestic routes.

MISCELLANEOUS:

M. LeRoy Stoner, named staff engineer of the Aeronautics Department, Society of Automotive Engineers . . . Joe E. Earll, now district manager of the B. F. Goodrich Company's Automotive and Aviation Division in Los Angeles . . . William T. Piper, Jr., Carl Friedlander and Joseph T. Geuting, Jr., respectively elected chairman, vice chairman and manager of the Personal Aircraft Council of the Aeronautical Chamber of Commerce.

JOSEPH TABOR JOHNSON, 2ND,
appointed New England district traffic manager for Pennsylvania-Central Airlines.

Until recently

Mr. Johnson was assistant district traffic manager in New England for United Airlines, with headquarters in Hartford, Connecticut. He is a graduate of Worcester Academy and Brown University, starring at both institutions in football, swimming, and track. His father was captain of the Yale track team in 1900, and a member of the Olympic team of that year. Mr. Johnson served as regional representative for the Hoffmann-LaRoche Company before entering airline traffic work.



AL HAPKE, JR., who has joined the staff of the American Petroleum Industries Committee of the American Petroleum Institute,

50 West 50th Street, New York, to head its newly created aviation section.



The new section will concern itself with problems relating to taxation, the financing of aircraft landing facilities, and related matters. Prior to joining the committee's staff, Mr. Hapke was market research manager for Republic Aviation Corporation, and in this capacity participated actively in the work of the various aviation trade associations. From 1940 to 1942, he was advertising manager of the Bell Aircraft Corporation, and prior to his affiliation there was on the Chicago advertising staff of *Collier's* magazine. In 1936 and 1937, as a pilot for Pan American Airways, Inc., he flew all of the Eastern Division's routes through the Caribbean and South America.

Mr. Hapke is a Quiet Birdman, a member of the Wings Club, the Institute of Aeronautical Sciences, and the Aviation Committee of the American Marketing Association. He graduated from Yale University in 1933 and is a native of Milwaukee, Wisconsin.

BONDS FOR VICTORY

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[REG. U. S. PAT. OFF.]

International Express and Mail Tables

Air express rates quoted are from U. S. International airport of departure (U. S. Gateway) and are based on the prevailing tariffs, airport to airport (see note); also see note for Airfreight rates. Shippers are warned, however, that these are subject to change.

GATEWAY SYMBOLS

Bb—Bangor, Me.	Jg—Burlington, Vt.
Bro—Brownsville, Tex.	Lgs—Los Angeles
Bw—Boston, Mass.	Lo—Laredo
Cg—Chicago	Mia—Miami
Cub—Cut Bank, Mont.	No—New Orleans
Di—Dallas	Nyk—New York
Eo—El Paso	Sa—San Antonio
Fv—Fort Worth	Sq—San Diego
Gf—Grand Forks, N. D.	Ste—Seattle

International Air Express is subject to two charges: one a charge per pound weight or measurements at carrier's option (200 cu. in. to the pound of weight), the other a charge per \$100 of valuation. The two must be added on any shipment to determine the cost. Neither includes insurance, which may be purchased by the shipper from the carrier or otherwise.

Priorities: The air carriers warn all shippers that express traffic, both U. S. Government and commercial, is so heavy that no guarantee can be given that any shipment will depart on any particular plane unless it enjoys U. S. priority. Otherwise it will de-

part, in relation to other shipments, in the order received at the international airport used, subject to wartime limitations. Pick-up service without extra charge is available for all international air express, except shipments routed through American Export Airlines. For shipments forwarded via Pan American Airways, a "Shipper's Letter of Instructions" is prepared and accompanies shipment to local REA office, where the PAA Airwaybill is prepared. (On cargoes to be shipped via American Export Airlines, Inc., shippers should contact "Shipper's Service," Room 922, 25 Broadway, New York. HAnover 2-9144.)

International air carriers whose schedules and rates are included here are indicated by the letter following the symbol for the airport

AIRLINE SYMBOLS

A—American Air Lines.
B—Braniff Airways
C—Colonial Air Lines.
E—American Export Airlines.
EA—Expreso Aero Inter-American.
K—KLM-Royal Dutch Air Lines.
NE—Northeast Airlines.
NW—Northwest Airlines
P—Pan American Airways System and affiliates.
T—Trans-Canada Air Lines.
U—United Air Lines
W—Western Air Lines.

Destination	U. S. Gateway & Airline	RATES (See Note)	Depart	Mail per 1/2 Oz.	Destination	U. S. & Airline	RATES (See Note)	Depart	Mail per 1/2 Oz.
		Per Lb. Per \$100 Value					Per Lb. Per \$100 Value		
Arequipa, Peru	Mia P	.23	.43	Dly	Aruba, N. W. I.	Mia K	.71	.45*	Su, W, F
"	No P	.26	.43	Dly	"	Mia P	1.73	.43	Su, Th
"	Bro P	1.26	.43	Dly	"	No P	1.86	.43	Sa, W
"	Lgs P	1.95	.43	Dly	"	Bro P	1.86	.43	F, Tu
Arica, Chile	Mia P	1.25	.43	Su, M, W, F, Sa	"	Lgs P	2.43	.58	Th, M
"	No P	1.26	.43	Su, M, W, F, Sa	Baracoa, Cuba	Mia P	.28	.17	Dly
"	Bro P	1.26	.43	Su, T, Th, F, Sa	"	Mia P	.85	.32	Dly
"	Lgs P	1.94	.43	Su, M, W, F, Sa	"	No P	1.13	.43	Dly
Aruba, N. W. I.	P	via C	urac	ao, N. W. I.	Barcelona, Venezuela	Bro P	1.17	.43	Dly
"	Mia K	.71	.45*	Su, W, F	"	Lgs P	1.78	.43	Dly
Asuncion, Paraguay	Mia P	1.73	.43	Su, Th	"	Mia K	.85	.50*	W, F
"	No P	1.86	.43	Sa, W	"	Mia P	.61	.32	Dly
"	Bro P	1.86	.43	F, Tu	"	Bro P	1.03	.32	Dly
"	Lgs P	2.43	.58	Th, M	"	No P	1.03	.32	Dly
Bahia, Brazil (See Sao Salvador)					"	Lgs P	1.59	.43	Dly
Balboa, Canal Zone	No P	.90	.32	Dly					
"	Bro P	.90	.32	Dly					
"	Lgs P	1.45	.43	Dly					
Baracoa, Cuba	Mia P	.28	.17	Dly					
Barcelona, Venezuela	Mia P	.85	.32	Dly					
"	No P	1.13	.43	Dly					
"	Bro P	1.17	.43	Dly					
"	Lgs P	1.78	.43	Dly					
Barranquilla, Colombia	Mia K	.85	.50*	W, F					
"	Bro P	1.03	.32	Dly					
"	No P	1.03	.32	Dly					
"	Lgs P	1.59	.43	Dly					

INTERNATIONAL EXPRESS AND MAIL TABLES—Continued

Destination	U. S. Gateway & Airline	RATES (See Note)			Mail per $\frac{1}{2}$ Oz.	Destination	U. S. Gateway & Airline	RATES (See Note)			Mail per $\frac{1}{2}$ Oz.
		Per Lb.	Per \$100 Value	Depart				Per Lb.	Per \$100 Value	Depart	
Bauru, Brazil.....	Mia P	1.58	.43	M, Sa	20	Corumba, Brazil.....	Mia P	1.41	.43	M, Sa	20
"	No P	1.71	.43	Su, F	20	"	No P	1.56	.43	Su, F	20
"	Bro P	1.71	.43	Th, Sa	20	"	Bro P	1.56	.43	Th, Sa	20
"	Lgs P	2.28	.65	W, F	20	"	Lgs P	2.13	.43	W, F	20
Belem, Brazil.....	Mia P	1.13	.43	Dly	20	Cristobal, Canal Zone.....	Mia P	.76	.32	Dly	10
"	No P	1.34	.43	Dly	20	"	No P	.92	.32	Dly	10
"	Bro P	1.34	.43	Dly	20	"	Bro P	.92	.32	Dly	10
"	Lgs P	1.95	.43	Dly	20	"	Lgs P	1.46	.43	Dly	10
Belo-Horizonte, Brasil.....	Mia P	1.65	.43	Su, M, W, F, Sa	20	Cuenca, Ecuador.....	Mia P	1.06	.32	Su, T, F	15
"	Mia P	1.65	.43	Su, M, W, F, Sa	20	"	No P	1.15	.43	Su, T, F	15
"	No P	2.13	.43	Su, T, Th, F, Sa	20	"	Bro P	1.15	.43	M, Tb, Su	15
"	Bro P	2.13	.43	M, W, Th, F, Sa	20	"	Lgs P	1.76	.43	Su, W, F	15
"	Lgs P	2.69	.60	Su, T, W, Th, F	20	Curacao, N.W.I.....	Mia P	.73	.32	Dly	10
Bonaire, N.W.I.....	— P via Curacao, N.W.I.	.75	.45*	Su, W, F	10	"	No P	.93	.32	Dly	10
Buenos Aires, Argentina.....	Mia P	1.56	.43	Dly	20	"	Bro P	1.11	.43	Dly	10
"	No P	1.70	.43	Dly	20	"	Lgs P	1.73	.43	Dly	10
"	Bro P	1.70	.43	Dly	20	"	Mia K	.73	.43	Su, W, F	10
"	Lgs P	2.26	.58	Dly	20	Curityba, Brazil.....	Mia P	1.60	.43	Su, M	20
Cali, Col. via Balboa.....	Mia P	.59	.32	Dly	25	"	No P	2.00	.43	Su, Sa	20
"	No P	1.03	.32	Dly	25	"	Bro P	2.93	.43	F, Sa	20
"	Bro P	1.03	.32	Dly	25	"	Lgs P	2.58	.53	Th, F	20
"	Lgs P	1.59	.43	Dly	25	David, Panama.....	Mia P	.81	.32	Dly	10
Camaguey, Cuba.....	Mia P	.26	.17	Thrice Dly	08	"	No P	.85	.32	Dly	10
"	Mia K	.20	.25*	Su, W, F	08	"	Bro P	.85	.32	Dly	10
Campeche, Mexico.....	Mia P	.41	.17	Dly	08	"	Lgs P	1.38	.43	Dly	10
"	No P	.41	.17	Dly	08	Esmeraldas, Ecuador.....	Mia P	.99	.32	M	15
"	Bro P	.51	.32	Dly	08	"	No P	1.11	.43	M	15
"	Lgs P	1.00	.32	Dly	08	"	Bro P	1.11	.43	Su	15
Campo Grande, Brazil.....	Mia P	1.48	.43	Mo, W, Sa	20	Florianopolis, Brazil.....	Mia P	1.63	.43	Su	20
"	No P	1.61	.43	Su, T, F	20	"	No P	2.11	.43	Su	20
"	Bro P	1.61	.43	M, Th, Sa	20	"	Bro P	2.11	.43	F	20
"	Lgs P	2.18	.43	Su, M, F	20	"	Lgs P	2.68	.58	Th	20
Caravieiras, Brazil.....	Mia P	1.33	.43	Tu	20	Fort de France, Martinique.....	Mia P	.71	.32	F	10
"	No P	1.81	.43	M	20	"	No P	1.00	.32	Sa	10
"	Bro P	1.81	.43	Su	20	"	Bro P	1.16	.43	F	10
"	Lgs P	2.38	.58	Sa	20	"	Lgs P	1.78	.43	Tb	10
Caracas, Venezuela (See La Guaira).....	Mia P	1.36	.43	Su, Th, Sa	20	Fortaleza, Brazil (Ceara).....	Mia P	1.23	.43	M, T, W, Th, So	20
Canavelas, Brazil.....	No P	1.85	.43	W, F, Sa	20	"	No P	1.54	.43	Su, M, T, W, F	20
"	Bro P	1.85	.43	T, Th, F	20	"	Bro P	1.54	.43	Su, V, T, Th,	20
"	Lgs P	2.41	.58	M, W, Th	20	Georgetown, British Guiana.....	Lgs P	2.10	.43	Su, M, W, F, Sa	20
Cayenne, Fr. Guiana.....	Mia P	1.02	.32	Dly	15	"	Mia P	.90	.43	T	15
"	No P	1.26	.43	Dly	15	"	No P	1.24	.43	M	15
"	Bro P	1.20	.43	Dly	15	"	Bro P	1.24	.43	Su	15
"	Lgs P	1.91	.43	Dly	15	"	Lgs P	1.88	.43	Sa	15
Cayo Mambi, Cuba.....	Mia P	.26	.17	Dly	08	Guadalajara, Mexico.....	Bro P	.43	.17	Dly	08
Chetumal, Mexico.....	Mia P	.55	.32	Su, T, Th	08	"	Lgs P	.59	.32	Dly	08
"	No P	.55	.32	Su, T, Th	08	Guantanamo, Cuba.....	Mia P	.28	.17	Dly	08
"	Bro P	.55	.32	Su, T, Th	08	"	Mia P	.59	.32	Dly	10
"	Lgs P	1.04	.32	M, W, Sa	08	Guatemala City, Guatamala.....	No P	.53	.32	Twice Dly	10
Chiclayo, Peru.....	Mia P	1.11	.43	Dly	15	"	Bro P	.53	.32	Dly	10
"	No P	1.19	.43	Dly	15	"	Lgs P	1.08	.43	Dly	10
"	Bro P	1.19	.43	Dly	15	"	Mia P	1.04	.32	Dly	10
"	Lgs P	1.91	.43	Dly	15	"	No P	1.15	.43	Dly	15
Cienfuegos, Cuba.....	Mia P	.26	.17	Dly	08	"	Bro P	1.15	.43	Dly	15
C. del Carmen, Mexico.....	Mia P	.45	.17	Dly	08	"	Lgs P	1.75	.43	Dly	15
"	No P	.45	.17	Dly	08	"	Mia P	.20	.15	Twice Dly	08
"	Bro P	.47	.32	Dly	08	"	Mia EA	.20	.18	Twice Dly	08
"	Lgs P	.94	.32	Dly	08	"	Mia P	.24	.15	Dly	08
Ciudad Trujillo, D. R.....	Mia P	.45	.17	Thrice Dly	10	Hermosillo, Mexico.....	Mia P	1.69	.43	W	20
"	Mia K	.98	.50*	Su	10	Iguassu Falls, Brazil.....	No P	1.91	.43	T	20
Cochabamba, Bolivia.....	Mia P	1.26	.43	M, W, Sa	20	"	Bro P	1.91	.43	M	20
"	No P	1.35	.43	M, W, Sa	20	"	Lgs P	2.48	.58	Su	20
"	Bro P	1.35	.43	Su, T, F	20	Ixtepet, Mexico.....	Mia P	.76	.32	M, T, W, Th, F, Sa	08
"	Lgs P	1.95	.43	M, Th, Sa	20	"	No P	.70	.32	Su, T, W, Th, F, Sa	08
Concepcion, Bolivia.....	Mia P	1.31	.43	Sa	20	"	Bro P	.41	.17	Su, T, W, Th, F, Sa	08
"	No P	1.45	.43	Sa	20	"	Lgs P	.89	.32	Su, T, W, Th, F, Sa	08
"	Bro P	1.45	.43	F	20	Kingston, Jamaica.....	Mia P	.39	.17	Dly	10
"	Lgs P	2.03	.43	Th	20	"	Mia K	.35	.32*	W, F	10
Cordoba, Argentina.....	Mia P	1.49	.43	Dly	20	La Guaira, Venezuela.....	Mia P	.75	.32	Dly	15
"	No P	1.63	.43	Dly	20	"	"	"	"	"	
"	Bro P	1.63	.43	Dly	20	"	"	"	"	"	
"	Lgs P	2.19	.43	Dly	20	"	"	"	"	"	
Coro, Venezuela.....	Mia P	.74	.32	Dly	15	"	"	"	"	"	
"	No P	1.07	.43	Dly	15	"	"	"	"	"	
"	Bro P	1.11	.43	Dly	15	"	"	"	"	"	
"	Lgs P	1.69	.43	Dly	15	"	"	"	"	"	

INTERNATIONAL EXPRESS AND MAIL TABLES—Continued

Destination	U. S. Gateway & Airline	RATES (See Note)	Per Lb.	Per \$100 Value	Depart	Mail per Oz.	Destination	U. S. Gateway & Airline	RATES (See Note)	Per Lb.	Per \$100 Value	Depart	Mail per Oz.
La Guaira, Venezuela	Mia K	75	45*	Su,F	10		Monterrey, Mexico	Lo B	13	15	Dly	10	
"	No P	1.08	43	Dly	15		"	Sa A	.20	15	Dly	10	
"	Bro P	1.15	43	Dly	15		"	Sa B	.20	15	Dly	10	
"	Lgs P	1.75	43	Dly	15		Montevideo, Uruguay	Mia P	1.60	43	M,W,F,Sa	20	
La Paz, Bolivia	Mia P	1.25	43	M,T,W,Th,Sa	20		"	No P	1.74	43	Su,T,Th,F	20	
"	No P	1.30	43	M,T,W,Th,Sa	20		"	Bro P	1.74	43	M,W,Th,Sa	20	
"	Bro I	1.30	43	Su,M,T,W,F	20		"	Lgs P	2.30	58	Su,T,W,F	20	
"	Lgs P	1.95	43	Su,M,T,Th,Sa	20		Mossoro, Brazil	Mia P	1.24	43	Th	10	
Lima, Peru	Mia P	1.18	43	Dly	15		"	No P	1.56	43	W	20	
"	No P	1.24	43	Dly	15		"	Bro P	1.56	43	T	20	
"	Bro P	1.24	43	Dly	15		"	Lgs P	2.13	43	M	20	
"	Lgs P	1.88	43	Dly	15		Nassau, Bahamas	Mia P	.20	15	Dly ex Su	10	
Loja, Ecuador	Mia P	1.08	43	W	15		Natal, Brazil	Mia P	1.25	43	M,T,W,Th,Sa	20	
"	No P	1.17	43	W	15		"	No P	1.61	43	Su,M,T,W,F	20	
"	Bro P	1.17	43	T	15		"	Bro P	1.61	43	Su,M,T,Th,Sa	20	
"	Lgs P	1.78	43	M	15		"	Lgs P	2.18	43	Su,M,W,Th,	20	
Maceio, Brazil	Mia P	1.26	43	M,T,W,Th,Sa	20				Sa				
"	No P	1.68	43	Su,M,T,W,F	20		Nuevo Laredo, Mexico	Di B	.22	17	Dly	10	
"	Bro P	1.68	43	Su,M,T,Th,Sa	20		"	Fv B	.22	17	Dly	10	
"	Lgs P	2.24	43	Su,M,W,F,Sa	20		"	Sa B	.15	15	Dly	10	
Managua, Nicaragua	Mia P	.76	32	Dly	10		Oaxaca, Mexico	Le B	.08	05	Dly	10	
"	No P	.71	32	Twice Dly	10		"	Mia P	.73	32	Su,T,Th	10	
"	Bro P	.71	32	Dly	10		"	No P	.73	32	Su,T,Th	10	
"	Lgs P	1.22	43	Dly	10		Oruro, Bolivia	Bro P	.35	17	Su,T,Th	10	
Manaos, Brazil	Mia P	1.24	43	T,W,F	20		"	Lgs P	.81	32	M,W,Sa	20	
"	No P	1.56	43	M,T,Th	20		"	Mia P	1.26	43	M,T,W,Th,Sa	20	
"	Bro P	1.56	43	Su,M,W	20		"	No P	1.33	43	M,T,W,Th,Sa	20	
"	Lgs P	2.13	43	M,T,Sa	20		"	Bro P	1.33	43	Su,M,T,W,F	20	
Manta, Ecuador	Mia P	1.03	32	T,Sa	15		"	Lgs P	1.95	43	Su,M,T,Th,Sa	20	
"	No P	1.14	43	Sa	15		Panama City, Panama (See Belém)	(See Belém, C.Z.)					
"	Bro P	1.14	43	M,F	15		Paramaribo, Sur	Mia P	.97	32	Dly	10	
"	Lgs P	1.74	43	Su,Th	15		"	Mia K	1.14	58	Sa	10	
Manzanillo, Cuba	Mia P	.26	17	Dly	15		"	No P	1.25	43	Dly	10	
Maracaibo, Venezuela	Mia P	.69	32	Dly	15		"	Bro P	1.25	43	Dly	10	
"	Mia K	.75	45	W,F	10		"	Lgs P	1.90	43	Dly	10	
"	No P	1.06	43	Dly	15		Parnahyba, Brazil	Mia P	1.21	43	Sa	10	
"	Bro P	1.08	43	Dly	15		"	No P	1.48	43	F	20	
"	Lgs P	1.66	43	Dly	15		"	Bro P	1.48	43	Th	20	
Maturin, Venezuela	Mia P	.89	32	Dly	15		"	Lgs P	2.04	43	W	20	
"	No P	1.17	43	Dly	15		Point a Pitre, Guadeloupe	Mia P	.66	32	F	10	
"	Bro P	1.19	43	Dly	15		"	No P	.98	32	Sa	10	
"	Lgs P	1.80	43	Dly	15		"	Bro P	1.14	43	F	10	
Maxican, Mexico	Bro P	.57	32	Dly	15		"	Lgs P	1.74	43	Th	10	
"	Lgs P	.45	17	Dly	15		Port au Prince, Haiti	Mia P	.37	17	Thrice Dly	10	
Medellin, Colombia	Mia P	1.06	32	Dly	25		"	Mia K	.39	25	Sa	10	
"	No P	1.10	43	Dly	25		Port of Spain, Trinidad	Mia P	.79	32	Dly	10	
"	Bro P	1.10	43	Dly	25		"	Mia K	.91	55*	Su,W	10	
"	Lgs P	1.65	43	Dly	25		"	No P	1.20	43	Dly	10	
Mendoza, Argentina	Mia P	1.41	43	Su,M,W,F,Sa	20		"	Bro P	1.20	43	Dly	10	
"	No P	1.55	43	Su,M,W,F,Sa	20		"	Lgs P	1.81	43	Dly	10	
"	Bro P	1.55	43	Su,T,Th,F,Sa	20		Porto Alegre, Brazil	Mia P	1.70	43	Su,M,W,F,Sa	20	
"	Lgs P	2.11	43	M,W,Th,F,Sa	20		"	No P	2.19	43	Su,T,Th,F,Sa	20	
Merida, Mexico	Mia P	.37	17	Dly	08		"	Bro P	2.19	43	M,W,Th,F,Sa	20	
"	No P	.37	17	Twice Dly	08		"	Lgs P	2.75	58	Su,T,W,Th,F	20	
"	Bro P	.55	32	Dly	08		Preston, Cuba	Mia P	.24	15	Dly	08	
"	Lgs P	1.04	32	Dly	08		Puerto Suarez, Bolivia	Mia P	1.41	43	Sa	20	
Mexicali, Mexico	Lgs P	.20	15	Dly	08		"	No P	1.56	43	Sa	20	
Mexico City, Mexico	Mia P	.64	32	Dly	08		"	Bro P	1.56	43	F	20	
"	No P	.64	32	Dly	08		"	Lgs P	2.13	43	Th	20	
"	EI B	.40	15	Dly	08		Quito, Ecuador	Mia P	.97	32	Dly	15	
"	Bro P	.26	17	Dly	08		"	No P	1.09	43	Dly	15	
"	Lgs A	.67	32	Dly	09		"	Bro P	1.09	43	Dly	15	
"	Lgs P	.67	17	Dly	08		"	Lgs P	1.68	43	Dly	15	
Minatitlan, Mexico	Lo B	.26	15	Dly	08		Recife (Pernambuco), Brazil	Mia P	1.26	43	M,T,W,Th,Sa	20	
"	Iv B	.40	17	Dly	08		"	No P	1.65	43	Su,M,T,W,F	20	
"	Fv A	.40	17	Dly	08		"	Bro P	1.65	43	Su,M,T,Th,Sa	20	
"	Eo A	.42	17	Dly	08		"	Lgs P	2.21	43	Su,M,W,F,Sa	20	
"	Sa A	.33	17	Dly	08		Rio de Janeiro	Mia P	1.50	43	Su,M,W,F,Sa	20	
"	Sa B	.33	17	Dly	08		"	No P	1.98	43	Su,T,Th,F,Sa	20	
"	Mia P	.53	32	Dly	08		"	Bro P	1.98	43	M,W,Th,F,Sa	20	
Monterrey, Mexico	No P	.53	32	Dly	08		"	Lgs P	2.54	58	Su,T,W,Th,F	20	
"	Bro P	.39	17	Dly	08		Robore, Bolivia	Mia P	1.38	43	Sa	20	
"	Eo A	.34	17	Dly	08		"	No P	1.51	43	Sa	20	
"	Lgs A	.62	17	Dly	08		"	Bro P	1.51	43	F	20	
							"	Lgs P	2.08	43	Th	20	

INTERNATIONAL EXPRESS AND MAIL TABLES—Continued

Destination	U. S. Gateway & Airline	RATES (See Note)	Per Lb.	Per \$100 Value	Depart	Mail per ½ Oz.	Destination	U. S. Gateway & Airline	RATES (See Note)	Per Lb.	Per \$100 Value	Depart	Mail per ½ Oz.
Salinas, Ecuador	Mia P	1.05	32	W, Th, r, Sa	15	Turbo, Colombia	Bro P	1.10	43	Dly			25
"	No P	1.15	43	W, Th, F, Sa	15	Lgs P	1.65	43	Dly			25	
"	Bro P	1.15	43	T, W, Th, F	15	Tuxpan, Mexico	Bro P	20	15	Dly			08
"	Lgs P	1.75	43	M, T, W, Th	15	Tuxtla, Gutiérrez, Mexico	Lgs P	.83	32	Dly			08
Salta, Argentina	Mia P	1.30	43	T, Th, Sa	20	Uyuni, Bolivia	Mia P	.81	32	Su, T, Th			08
"	No P	1.45	43	T, Th, Sa	20	"	No P	.81	43	Su, T, Th			08
"	Bro P	1.45	43	M, W, F	20	"	Bro P	.45	17	Su, T, Th			08
"	Lgs P	2.03	43	Sa, T, Th	20	"	Lgs P	.93	32	M, W, Sa			08
San Ignacio, Bolivia	Mia P	1.33	43	Sa	20	Veracruz, Mexico	Mia P	1.26	43	T, Th			20
"	No P	1.48	43	Sa	20	"	No P	1.38	43	T, Th			20
"	Bro P	1.48	43	F	20	"	Bro P	1.38	43	M, W			20
"	Lgs P	2.04	43	Th	20	"	Lgs P	1.95	43	Su, T			20
San Jose, Bolivia	Mia P	1.35	43	Sa	20	Victoria, Brazil	Mia P	.57	32	Dly			08
"	No P	1.50	43	Sa	20	"	No P	.57	32	Dly			08
"	Bro P	1.50	32	F	20	"	Bro P	.33	17	Dly			08
"	Lgs P	2.08	43	Th	20	"	Lgs P	.79	32	Dly			08
San Jose, Costa Rica	Mia P	.83	32	Dly	10	Villahermosa, Mexico	Mia P	1.41	43	T			20
"	No P	.76	32	Twice Dly	10	"	No P	1.90	43	M			20
"	Bro P	.76	32	Dly	10	"	Bro P	1.90	43	Su			20
"	Lgs P	1.31	43	Dly	10	"	Lgs P	2.46	58	Sa			20
San Juan, Puerto Rico	Mia P	.53	32	Thrice Dly	08	"	Mia P	.49	32	Dly			08
San Salvador, El Salvador	Mia P	.64	32	Dly	10	"	No P	.49	32	Dly			08
"	No P	.61	32	Twice Dly	10	"	Bro P	.43	17	Dly			08
"	Bro P	.61	32	Dly	10	"	Lgs P	.90	32	Dly			08
Santa Cruz, Bolivia	Mia P	1.14	43	Dly	10								
"	No P	1.28	43	M, W, Sa	20								
"	Bro P	1.43	43	M, W, Sa	20								
"	Lgs P	1.99	43	Su, T, F	20								
Santiago, Chile	Mia P	1.99	43	M, Th, Sa	20								
"	No P	1.51	43	Su, M, W, F, Sa	20								
"	Bro P	1.51	43	Su, T, Th, F, Sa	20								
"	Lgs P	2.08	43	Su, M, W, Th, F, Sa	20								
Santiago, Cuba	Mia P	.26	17	Dly	08								
Sao Luis, Brazil	Mia P	1.19	43	M, T, W, Th, Sa	20								
"	No P	1.43	43	Su, M, T, W, F	20								
"	Bro P	1.43	43	Su, M, T, Th, Sa	20								
"	Lgs P	1.99	43	Su, T, W, F, Sa	20								
Sao Paolo, Brazil	Mia P	1.55	43	Su, M, W, F, Sa	20								
"	No P	2.04	43	Su, T, Th, F, Sa	20								
"	Bro P	2.04	43	M, W, Th, F, Sa	20								
"	Lgs P	2.60	58	Su, T, W, Th, F	20								
Sao Salvador, Brazil (Bahia)	Mia P	1.28	43	M, T, W, Th, Sa	20								
"	No P	1.76	43	Su, M, T, W, F	20								
"	Bro P	1.76	43	Su, M, T, Th, Sa	20								
"	Lgs P	2.33	58	Su, M, W, F, Sa	20								
St. Martin, N.W.I.	Mia P	1.20	58	Su	10								
St. Thomas, V. I.	Mia P	.57	32	F	08								
Talara, Peru	Mia P	1.10	43	F	08								
"	Lgs P	1.68	43	Th	08								
"	Mia P	1.08	43	Dly	15								
"	No P	1.17	43	Dly	15								
"	Bro P	1.17	43	Dly	15								
"	Lgs P	1.79	43	Dly	15								
Tampico, Mexico	Mia P	20	15	Dly	08								
"	Lgs P	.81	32	Dly	08								
Tapachula, Mexico	Mia P	.74	32	Dly	08								
"	No P	.74	32	Dly	08								
"	Bro P	.53	32	Dly	08								
"	Lgs P	1.02	32	Dly	08								
Tegucigalpa, Honduras	Mia P	.69	32	Dly	10	Aniak, Alaska	Ste P	1.08	.32	Sa			08
"	No P	.68	32	Dly	10	Bethel	Ste P	1.11	.32	Sa			08
"	Bro P	.68	32	Dly	10	Burwash Landing	Ste P	.72	.32	Dly			08
"	Lgs P	1.18	43	Dly	10	Fairbanks	Ste P	.90	.32	Dly			08
Tres Lagaos, Brazil	Mia P	1.53	43	T, Sa	20	Flat	Ste P	1.05	.32	Sa			08
"	No P	1.66	43	M, F	20	Galena	Ste P	1.00	.32	M, W, F			08
"	Bro P	1.66	43	Su, Th	20	Juneau	Ste P	.56	.32	Dly			08
"	Lgs P	2.23	43	W, Sa	20	Lake Minchumina	Ste P	.95	.32	Sa			08
Turman, Argentina	Mia P	1.34	43	T, Th, Sa	20	McGrath	Ste P	1.00	.32	Sa			08
"	No P	1.49	43	T, Th, Sa	20	Moses Point	Ste P	1.07	.32	M, W, F			08
"	Bro P	1.49	43	M, W, F	20	Nome	Ste P	1.11	.32	M, W, F			08
"	Lgs P	2.05	43	T, Th, Sa	20	Tanacross	Ste P	.81	.32	Dly			08
Turbo, Colombia	Mia P	1.06	32	Dly	25	Tanana	Ste P	.95	.32	Su, Th			08
"	No P	1.10	43	Dly	25	Whitehorse, Canada	Ste P	.66	.32	Dly			08

ATLANTIC LINES

Bathurst, Gambia, Africa	Nyk E	2.67	45		50
Boiana, Portuguese Guinea, Africa	Nyk P	2.66	43	Fortnightly	50
Botwood, Newfoundland	Nyk P	.81	32	Su, W, F	15
Botwood, Newfoundland	Nyk E	.81	35	Thrice wk May-Oct.	15
Dakar, Senegal, Africa	Nyk E	2.36	45	Fortnightly	45
England via Foynes*	Nyk P	(Rates on Application)	30		
*Foynes, Eire via Botwood or Direct	Nyk P	(Rates on Application)	30		
Hamilton, Bermuda	Nyk P	.55	17	M, T	10
Horta, Azores	Nyk P	1.70	32	T	30
Lisbon, Portugal	Nyk P	2.00	43	T	30
Monrovia (Fisher's Lake), Liberia	Nyk P	2.67	43	Alt. Th	50
Port Lyautey, French Morocco	Nyk E	2.00	45		33
Scotland via Foynes*	Nyk E	(Rates on Application)	30		
*Shediac, N.B.	Nyk P	.51	17	Su, W, F	08
Sweden, via Foynes	Nyk E	(Rates on Application)	30		
Wales via Foynes*	Nyk E	(Rates on Application)	30		
*Nyk P	(Rates on Application)	30			

ALASKA LINES

Aniak, Alaska	Ste P	1.08	.32	Sa	08
Bethel	Ste P	1.11	.32	Sa	08
Burwash Landing	Ste P	.72	.32	Dly	08
Fairbanks	Ste P	.90	.32	Dly	08
Flat	Ste P	1.05	.32	Sa	08
Galena	Ste P	1.00	.32	M, W, F	08
Juneau	Ste P	.56	.32	Dly	08
Lake Minchumina	Ste P	.95	.32	Sa	08
McGrath	Ste P	1.00	.32	Sa	08
Moses Point	Ste P	1.07	.32	M, W, F	08
Nome	Ste P	1.11	.32	M, W, F	08
Tanacross	Ste P	.81	.32	Dly	08
Tanana	Ste P	.95	.32	Su, Th	08
Whitehorse, Canada	Ste P	.66	.32	Dly	08

INTERNATIONAL EXPRESS AND MAIL TABLES—Continued

Destination	U. S. Gateway & Airline	RATES (See Note)		Depart	Mail per Oz.	Destination	U. S. Gateway & Airline	RATES (See Note)		Depart	Mail per Oz.
		Per Lb.	Per \$100 Value					Per Lb.	Per \$100 Value		
CANADIAN LINES											
Calgary, Alb.	Nyk T	1.02	†	Dly	.08	Regina, Sask.	Nyk T	.80	†	Dly	.08
Edmonton, Alb.	Nyk T	1.06	†	Dly	.08	St. John, N. B.	Nyk T	.31	†	Dly	.08
Halifax, N. S.	Nyk T	.31	†	Dly	.08	St. Johns, N. F.	Nyk T	.58	†	Dly	.08
Lethbridge, Alb.	Nyk T	.88	†	Dly	.08	Sydney, N. S.	Nyk T	.36	†	Dly	.08
"	Cub W	.04	†	Dly	.08	Toronto, Ont.	Nyk A	.16	†	Dly	.08
London, Ont.	Nyk T	.22	†	Dly	.08	Nyk T	.16	†	Dly	.08	
Moncton, N. B.	BbNE	.06	†	Dly	.08	Vancouver, B. C.	St. U.	.04	†	Dly	.08
Montreal, Que.	Nyk C	.12	†	Dly	.08	"	Nyk T	.96	†	Dly	.08
"	Nyk T	.12	†	Dly	.08	Windsor, Ont.	Nyk A	.20	†	Dly	.08
"	Jg NE	.12	†	Dly	.08	"	Cg. A	.12	†	Dly	.08
North Bay, Ont.	Nyk T	.27	†	Dly	.08	"	Nyk T	.20	†	Dly	.08
Ottawa, Ont.	Nyk T	.18	†	Dly	.08	Winnipeg, Man.	GINW	.04	†	Dly	.08
							Nyk T	.60	†	Dly	.08

South American Company Of All American Formed

All American Aviation, Inc., pioneer operators of the Air Pick-up in this country, has completed the organization of its Brazilian company, Equipamento All American Aviation, S. A., which will undertake the development of similar operations in Brazil.

Officers of the new company are: President—Dr. J. Bento Ribeiro Dantas, president of Servicos Aereos Cruzeiro do Sul, Ltda., Rio de Janeiro; vice-president—Dr. Carlos Paulo Sampeio, president of Panair do Brasil, Rio de Janeiro; manager—Pierce Archer, III, Rio de Janeiro; treasurer—Richard P. Monsen, attorney, Rio de Janeiro; secretary—Rubem Barta, president and manager of S. A. Empresa de Viacao Aerea Rio Grandense (VARIG), Porte Alegre. These officers also will serve as directors of the new company.

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FOR THE MARINES—
Commissioned by the United States Marine Corps League, the original Howard Chandler Christy painting of the flag-raising on Mount Surabachi is shown being air expressed to the capital. It was delivered by the Air Express Division of REA.

Awards for No-Fatality Records in 1944 Go To Sixteen U. S. Airlines

Sixteen American airlines completed their 1944 operations without a single fatal accident, the National Safety Council reported in announcing its 1944 Aviation Safety Awards.

Among the largest airlines—those flying more than 100,000,000 passenger miles in the year—United Air Lines was the group winner. In this group, Eastern Air Lines and Northwest Airlines also had no-fatality records, thus earning Certificates of Safe Operation; but these two lines had flown fewer passenger miles since their last fatality than United Air Lines.

Among the airlines flying from 10,000,000 to 100,000,000 passenger miles in 1944, Braniff Airways was the group winner.

Other perfect records of no fatalities in this group were compiled by Pennsylvania-Central Airlines, Delta Air Lines, Western Air Lines, Chicago & Southern Air Lines, National Airlines, Continental Air Lines, Mid-Continent Air Lines, Northwest Airlines, Pan American Airways (Atlantic Division), Hawaiian Airlines, and Colonial Airlines—all of

which earned Certificates of Safe Operation.

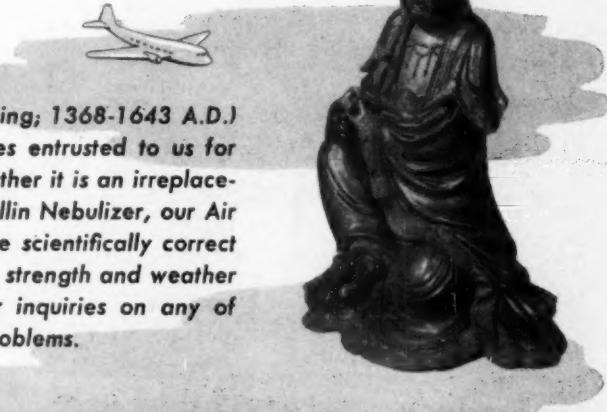
American Export Airlines won the award in the group of airlines operating less than 10,000,000 passenger miles in 1944. It was the only line in this group with a no-fatality record. At the end of 1944 it had operated 18,725,766 passenger miles since its last fatal accident.

In addition to winning the award in its group, UAL has been voted the National Safety Council's special wartime Distinguished Service to Safety Award for operating more than one billion passenger miles without a fatal accident. From May 1, 1942, to the present, UAL has had no fatal accidents. The total passenger miles operated without fatality up to January 1, 1945, was 1,048,310,190. The awards were made on the basis of official records of the Civil Aeronautics Authority.

Czech-Russian Air Service

Commercial air service has been resumed between Czechoslovakia and Moscow. It is understood that the Czech Government has asked the United States for 18 surplus C-47s and C-53s.

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